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ABSTRACT

These guidelines outline procedures for the communication disorders specialist/speech-language pathologist employed in the Utah public schools. The guidelines are designed to ensure that all students with communication disorders, ages 3-21, will be provided with appropriate speech-language services in the public schools, that the criteria for speech-language services will be consistent throughout school districts in the state, that speech-language pathologists will have improved understanding of their professional responsibilities, and that administrators will have improved understanding of the responsibilities and qualifications of speech-language pathologists. The guidelines address: (1) clarification of federal definitions; (2) child identification, location, and evaluation; (3) classification guidelines; (4) service delivery; (5) termination of services; and (6) general audiological services. Appendices make up most of the document and include a language arts core curriculum for grades K-6, a flowchart of the Individualized Education Program process, samples of Child Find procedures and prereferral assessment documents, information on English as a Second Language students, considerations in testing and sample evaluation forms, sample evaluation team reports, information on traumatic brain injury, normative data on speech production, and assessment needs for augmentative alternative communication devices. (Contains 22 references.) (JDD)

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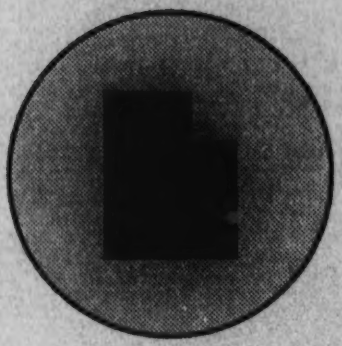
Communication Disorders Guidelines



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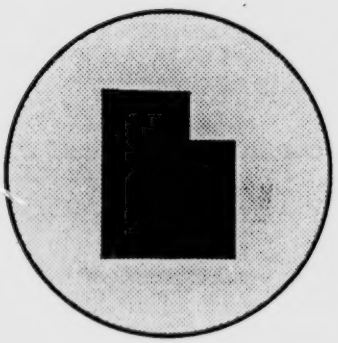
Communication Disorders

Guidelines



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COMMUNICATION DISORDERS GUIDELINES
UTAH STATE OFFICE OF EDUCATION

Project History In August of 1988, a task force was selected to develop a Communication Disorders Guidelines for the State of Utah.

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COMMUNICATION DISORDERS GUIDELINES

Section I Introduction

A. **Purpose:** The purpose of this guideline is to outline procedures for the communication disorders specialist (CDS)/speech-language pathologist (SLP)[1] employed in the public schools in the State of Utah. (This document may also be useful to public school audiologists who may interact with the SLP.)

B. **Outcome:** The expected outcomes of this guideline are that:

- All students with communication disorders, ages 3-21 in the State of Utah, will be provided with appropriate speech-language services in the public schools.
- The criteria for speech-language services will be consistent throughout the districts in the State of Utah.
- Speech-language pathologists will have improved understanding of their professional responsibilities in the public schools.
- Administrators will have improved understanding of the responsibilities and qualifications of speech-language pathologists in the public schools.

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[1]Throughout the document, Communication Disorders Specialist and Speech-Language Pathologist are used synonymously.

Section II Clarification of Federal Definitions

A. **Purpose:** The definitions presented below are provided to clarify various terms used throughout this manual.

B. **Outcome:** The expected outcomes of these definitions are that SLPs, administrators, and other school personnel will have improved understanding of the terms used in the state and federal definition of a communication disorder.

C. **Definitions:**

1. Speech-Language Impairment (Federal)
   Communication Disordered (USOE)
   A communication disorder such as impaired articulation, stuttering (fluency disorders), voice impairment, or language impairment, which adversely affects a student's educational performance as per State Board of Education, Special Education Rules (SBE/SER I.E.4.), and Federal definition.

2. Educational Performance - Involves any of the basic skills of reading, math, and communication, both written and oral (in accordance with P.L. 95-561) appropriate for ages 3-21 as per P.L. 99-457. Copies of these laws are available through district offices. *(See Appendix A for information regarding Language Arts Core Curriculum.)*

   ***Note** - Office of Special Education Programs (OSEP) clarified IDEA's use of the term educational performance as an assessment of performance in both academic and nonacademic areas. OSEP stated that educational performance should be determined on a case-by-case basis and must extend beyond academic standards as determined by standardized measures. (Schrag, 9/14/90, OSEP Policy Letter)*

3. Articulation - The actions of the organs of speech in producing the sounds of speech.

4. Fluency - The smoothness and rate with which sounds, syllables, words, and phrases are joined together during oral language; lack of hesitations or repetitions in speaking.

5. Voice - Sound produced by the vibration of the vocal folds and modified by the resonators. Components of voice include pitch, intensity, and quality.

6. Language - A code whereby ideas about the world are understood and expressed through a conventional system of arbitrary symbols for verbal/nonverbal communication.

   Language includes the following:

   a. *Syntax System*: how words are to be sequenced in utterances and how the words in utterances are related.

b. *Morphological System*: how various word forms, grammatical markers, and inflections are derived.

c. *Phonological System*: the sounds of language, including speech sounds, speech sound production, and the combination of sounds in meaningful utterances.

d. *Semantic System*: the meaning of words and word combinations.

e. *Pragmatic System*: the use of language in context.

f. *Auditory Processing System*: the processing of language by the brain through hearing.

Section III Child Identification, Location, and Evaluation

A. **Purpose:** The intent of this section is to provide technical assistance to SLPs throughout the state. Information and examples of different types of these procedures are included in the guidelines and attached appendices. *(See Appendix A.)*

B. **Outcome:** The expected outcome is that all communication disordered students, ages 3-21 in the state of Utah, will be identified and evaluated.

C. **Overview:** Section III contains information about child find, pre-referral intervention procedures, referral, comprehensive evaluation, and interagency cooperation.

D. **Content:**

1. Child Find

   a. The first step in the child identification, location, and evaluation process is child find as described in SBE/SER III.A. Approved child identification procedures may be obtained from the special education administrator in individual districts. Parental consent is not required for child find procedures involving only screening.

   b. School and community based child find procedures may include, but are not limited to:

      1) Checklists to teachers and parents
      2) Direct student screening and rescreening
      3) Inservice to parents, teachers, and community
      4) Media announcements
      5) Referrals from parents, teachers, students, or outside agencies
      6) Teacher interviews

      (See Appendix C for examples of child find procedures.)

   c. The expected outcomes of quality child find procedures include:

      1) Appropriate identification of all students suspected of having communication disorders.
      2) Concise, efficient, and cost effective identification of these students.
      3) Improved community and family education regarding district services for students with disabilities.

2. Pre-referral Intervention Procedures

a. Pre-referral interventions should be the next step in the child identification, location, and evaluation process. A pre-referral intervention is a documented strategy implemented by the public agency. The impact of the strategy may negate or result in referral of a student for evaluation by special education personnel. The primary purpose of pre-referral interventions is to identify and establish classroom interventions and/or programs for students suspected of having communication disorders, in accordance with SBE/SER III.B. Pre-referral is not required for preschool students or those identified students transferring from preschool to school age. *(See Appendix C.)*

b. Many students in the course of their educational experience exhibit communication difficulties which appear to interfere with their educational performance.

1) Some of these communication difficulties can be resolved in a cost effective manner by the regular education staff utilizing documented classroom intervention procedures. A special education evaluation can thereby be avoided.
2) For those communication difficulties which cannot be resolved by pre-referral interventions, the public agency must document a history of failed classroom interventions and/or programs which, however appropriate, proved ineffective. The student should then be referred for a special education evaluation (SBE/SER III.B.)

c. The pre-referral process should be conducted for several important reasons:

1) The pre-referral process may eliminate the need for a special education evaluation for those students whose communication difficulties are of a minor nature and can be effectively resolved in the regular classroom.
2) As SLPs function as consultants in the pre-referral process, their role can be better understood by special education and regular education personnel.
3) The pre-referral process facilitates subsequent teacher awareness and cooperation during the diagnosis and remediation of those students who present communication disorders.

d. School staff responsibilities during the pre-referral process are:

1) The SLPs will be responsible for providing classroom teachers with such consultative services as may be needed to assist teachers in accomplishing pre-referral interventions. Such services can include, but are not limited to:
   - inservice

- teacher training
- specific intervention procedures
- documentation ideas
- handouts

(See Appendix C for examples of pre-referral documentation.)

2) Classroom teachers will be responsible for implementing, evaluating, monitoring, and documenting both successful and unsuccessful pre-referral interventions and/or programs for students suspected of having communication difficulties. Refer to SBE/SER III.B.

e. Students excluded from pre-referral intervention procedures include:

1) Children at the preschool level.
2) Students suspected of having a medically-based communication problem, which could place the student's health at risk by a delay in the medical diagnosis and treatment of the underlying medical problem (e.g., vocal pathology, middle ear infection, or oral cancer). Pre-referral interventions are still required for the educational aspects of the student's communication problem when present.

3. Referral

a. After documenting unsuccessful classroom interventions for a student suspected of having communication difficulties, teachers will be responsible for referring the student to the multidisciplinary team[2] for a comprehensive evaluation.

b. In the case of a parental referral, efforts must be made to implement the pre-referral procedure; however, the right of a parent to refer a student for evaluation shall not be denied or delayed by the pre-referral process.

4. Comprehensive Evaluation

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[2]Although the term *multidisciplinary team* is used in this document, the term *transdisciplinary team* may be appropriate in service areas/districts where staffing and level of training allows for a transdisciplinary model of service.
Transdisciplinary Services are characterized by a sharing, or transferring of information and skills across traditional disciplinary boundaries. *Transdisciplinary Model* incorporates an indirect model of services, whereby one or two persons are primary facilitators of services and other team members act as consultants.
Indirect Therapy refers to teaching, consulting with, and directly supervising other team members (including paraprofessionals) for the purpose of integrating therapeutic interventions into daily activities.

a. Comprehensive evaluation is the final step in the child identification, location, and evaluation process.

b. The referral of a student to the multidisciplinary team for a comprehensive evaluation should be accomplished when the pre-referral options available in regular education have been implemented and there remains a possible need for speech-language services from the SLP.

c. Written parental permission must be obtained before a comprehensive evaluation by members of the multidisciplinary team can begin. The guidelines regarding parental permission given in SBE/SER III.C. should be followed. (For a student being initially evaluated, a public agency has thirty days from the date parental permission for testing is received to begin the evaluation process.)

d. The parent must receive prior notice and a parent rights statement before testing is initiated. See Prior Notice requirements (a) through (i) as presented in SBE/SER III.D.1.

e. As a member of the multidisciplinary team, the SLP should give special consideration to the following specific evaluation information:

1) The SLP should evaluate each student using procedures that are professionally appropriate for the diagnosis of the student's speech and/or language disorder. The SLP should refer a student for additional assessments when needed to make appropriate placement decisions.
2) Students who have a communication disorder as their primary disabling condition may not need a complete assessment battery in areas other than communicative disorders (e.g., psychological, physical, or adaptive behavior).
3) The SLP shall ensure that tests and other evaluation materials used for the comprehensive evaluation of a student comply with the protection requirements listed in SBE/SER III.E.1-10.
4) Tests and other evaluation materials should be provided and administered in the student's native language or other mode of communication when English is not the student's primary language. The local education agency (LEA) shall determine the language best understood by the student. The comprehensive evaluation or access to special education services shall not be postponed solely because the student cannot communicate effectively in English. If the student's preferred language is not English, the school may do the following:

a) Refer the student to the bilingual or multicultural department within your district (if available).
b) Use a qualified evaluator fluent in both the student's primary language and in English. This shall be the

alternative used unless the LEA can demonstrate the use of this alternative is clearly not feasible.

c) Use an interpreter to assist the evaluator and student with language testing.

d) Select test instruments which lessen racial, cultural, and linguistic discrimination.

5) For specific guidelines regarding the validity of evaluation materials, appropriateness for racial and ethnic groups, and involvement of the multidisciplinary team, see SBE/SER III.E. *(See Appendix D for information on ESL students.)*

6) No single procedure or test is to be used as the sole criterion for classification of a student as communication disordered as specified in SBE/SER, APPENDIX A-2, A-3. The evaluation shall be multisourced, based upon a variety of assessment procedures appropriate to the suspected communication disorder. The intensity and type of evaluation shall be determined by the nature of the student's strengths and weaknesses. It is highly recommended that at least one standardized test be given when available for the area being tested. *(See Appendix E for an in-depth discussion of testing considerations, including:*

- *Test selection;*
- *Test design (normative tests vs. nonstandardized assessment);*
- *Measurement issues including reliability, validity, usability, standardized populations, type of norm based score reported, and standard error of measurement;*
- *List of published tests; and*
- *Cognitive tests for communication disordered students.)*

7) Tests must be selected and administered to ensure that the results obtained from testing a student with impaired sensory, motor, or speaking skills accurately reflect the student's aptitude or achievement levels and not the sensory deficit (except where those sensory skills are the factors which the test purports to measure). The SLP can accomplish this goal by utilizing:

a) performance scales standardized on or adapted for individuals with communication disorders;
b) amplification techniques;
c) alternative, augmentative, and assistive devices and/or techniques.

8) Administration and interpretation of tests and other evaluation materials used to classify students CD are the responsibility of the SLP.

9) For procedures relating to diagnostic protocols, assessment of related areas, interpretation of evaluation data and placement decisions, refer to SBE/SER III.10.A.

f. After the primary disabling condition has been determined, a multidisciplinary evaluation team report must be completed. The report, individual assessments completed by each team member, and diagnostic protocols shall be maintained in the student's confidential folder. Refer to SBE/SER III.G. When the communication disorder is to be addressed as a related service, formal documentation of the evaluation procedures used by the SLP/multidisciplinary team is strongly encouraged. Documentation would include evaluation and classification information such as: demographic data, evaluation and tests administered, results, diagnostic conclusions, and recommendations. *(See Appendix F for samples of evaluation team reports.)*

Such documentation would ensure comprehensive consideration of all aspects of the student's communication abilities and disabilities before arriving at intervention decisions. In addition, subsequent review of placement decisions would be based on documented evidence of the student's performance levels.

g. If a determination is made by the evaluation team that a student is disabled and needs speech-language services, an Individualized Education Program (IEP) shall be developed for the student within thirty (30) calendar days for the completion of testing (determination of eligibility). Services may not begin until the IEP is developed. Refer to SBE/SER III.E.10.B.

h. Each parent of a student with a disability, including a communication disorder, has a right to obtain an independent educational evaluation of the student if they disagree with the evaluation provided by the school district. The procedures for such an evaluation are presented in SBE/SER III.F.

5. Interagency Cooperation

a. Under SBE/SER III.G. (Classification Process), IV.E. (Content of the IEP), and IV.H. (Placement), it is the responsibility of the public school multidisciplinary and IEP team (outside agency members may be included) to determine appropriate classification, IEP content, and placement for a student. Evaluation results or conclusions from the outside agency will be considered in making decisions.

b. Many students with disabilities are seen by a variety of professionals and agencies. It is imperative that as professionals communicate, they keep foremost in mind the needs and confidentiality of the student with

disabilities. The SLP is encouraged to obtain a release of confidential information in order to facilitate interagency communication.

c. A particular concern is the impact of one agency and its services which may affect the program or services of another agency. Other state agencies or professional entities may, through diagnostics, medical or social treatment, parent counseling, or medical therapeutic intervention, effect the educational program that is to be designed for a student with disabilities. It is imperative that the school district developing a program for a student makes the effort to understand the nature of programs and service delivery options in other agencies which serve the student (and vice versa). The LEA and other agencies can then be knowledgeable about how each other's services will impact the educational program development. Following are some examples of the nature of services and possible educational program implications:

1) Diagnostic Services - Students with communication disorders are often identified, evaluated, and served by agencies other than public education early in their lives. By their very nature, some other agencies' service delivery patterns may be more intense than the kinds of services provided in the public schools. Therefore, persons preparing diagnostic reports intended for use by the educational system should take care to be descriptive of the student's limitations, needs, and educational implications.

2) Reports - Reports of diagnostics or of educational/therapeutic interventions provided by another agency can be very useful to school districts in developing a student's IEP. However, it must be remembered that it is the LEA multidisciplinary team's responsibility to classify and the IEP team's responsibility to determine the kinds and extent of special education and related services needed by each student. Therefore, the other agencies should take care to provide information in such a way as to be useful to the school district in that process. It is highly recommended that outside reports contain:

   a) diagnostic information;
   b) strengths of learning or performance;
   c) educational/learning/motor deficiencies, difficulties, or limitations;
   d) statements about the kinds of special needs of the student; and
   e) educational/learning implications.

   For example:
   The evaluative report might say, "This child would benefit from intensive speech therapy," rather than, "This child needs a self-contained class," or, "must have speech therapy three times a week." The first example empowers the IEP team to determine the type and amount of service a student will receive.

d. It is the responsibility of the school IEP team to determine:

1) the special education classification of the student;
2) the kinds and amounts of specific services, and who the service providers should be;
3) the specific type of intervention to be provided; and
4) the specific kind of special education program setting recommended for the student.

NOTE: Outside public or private evaluations should refrain from stating the above as "prescriptions" in their reports, as their opinions, considered, are not binding on the school districts.

e. The public school multidisciplinary team will consider the information from the outside agency but may have to conduct further evaluation in order to determine whether the student meets state classification criteria.

f. By the use of open and cooperative communication between agencies, conflicts with parents, IEP teams, and administrators of all agencies can be avoided in favor of a cooperative relationship resulting in an IEP that is appropriate for an individual student's needs.

Section IV Classification Guidelines

A. **Purpose:** The purpose of this section is to provide the SLP with the information necessary for determining a student's eligibility for speech-language services. Classification considerations and severity rating scales are included for the multidisciplinary team to use in making decisions based on the individual needs of students.

B. **Outcome:** The expected outcome of the classification guidelines is that students with communication disorders will be appropriately diagnosed and classified in order to receive speech-language services according to their needs.

C. **Overview:** To classify a student as communication disordered (primary or related service), requires:

1. evidence of a diagnosis by an SLP indicating that the student has a disorder in listening, reasoning, and/or speaking to such a degree that special education is needed;

2. that classification takes place in a multidisciplinary team meeting; and

3. classification of preschool children with disabilities may be based on Part B or preschool disabled, noncategorical classifications.

D. **Classification Considerations:**

1. **Intellectual Ability:**
A student being considered for classification as communication disordered as the **primary** disabling condition should have intellectual ability within normal limits. (When an IQ range of 75-84 is determined, the multidisciplinary team should closely evaluate all available data to determine whether the student's performance is impacted by his/her communication skills. Only then would a CD classification be appropriate.) A speech-language pathologist may presume that the students' intellectual ability is within the normal range unless otherwise indicated by the referring agent. Students whose functioning level falls below the normal range of intelligence might be served by the SLP as a related service, since the student probably receives other special education services. *(See Appendix E.)*

2. **Learning Disabilities and Communication Disorders:**
Research supports the concept that disorders of language are present in the majority of children who manifest learning disabilities. The determination of a primary disabling condition is difficult when dealing with the LD/CD student due to the complexity of the higher language skills involved in academic learning. Many students could qualify for classification in both areas. It is the responsibility of the multidisciplinary team to determine the appropriate primary classification. It is important that the SLP be a

member of the multidisciplinary team which evaluates students suspected of having a learning disability in the areas of oral expression and/or listening comprehension. Refer to SBE/SER III.E.4.

3. **Traumatic Brain Injury (TBI):**
Students with traumatic brain injuries may present unique communication deficits. Special considerations are necessary during the evaluation and placement process for these students. Inservice to other school personnel also may be warranted. *(Refer to Appendix G and State TBI Guidelines for additional information.)*

4. **Minority Language Students:**
In order for a minority language student to be deemed eligible for classification as Communication Disordered, the multidisciplinary team must determine that the communication disorder exists in the student's native language and is not the result of learning English as a second language. *(See Appendix D.)*

5. **Orofacial Myofunctional Disorder (OMD):**
Numerous requests are received by the SLP to work with students who present Orofacial Myofunctional disorders (formerly refered to as Tongue Thrust). The general policy should be that the student may, at the discretion of the district or SLP, be treated <u>if there is an associated communication disorder</u>. If not, he/she is ineligible to be treated under monies for the disabled.

6. **Augmentative, Alternative, and Assistive Communication Devices:**
Students who are non-verbal or severely limited in their ability to produce quality speech or written language may require or benefit from a transdisciplinary evaluation by one of the Utah Augmentative, Alternative and Assistive Communication Devices Teams (UAAACT). Trained teams exist throughout Utah on a district/regional basis. Referrals should be made through the local principal to the district director of special education or UAAACT leader. *(Refer to UAAACT Procedures Manual located with each UAAACT member and all local special education offices. Also, refer to Appendix I of these Guidelines for general information on Augmentative, Alternative, and Assistive Communication Devices.)*

E. Severity Rating Scales

1. The following rating levels are provided to encourage consistency in determining student eligibility for speech-language services. In using the severity rating scales, formal test results should be considered in conjunction with informal assessments, observation, and input from significant others.

2. A student who qualifies for speech-language services in one district will also qualify for speech-language services in another district within the state. No single procedure or test will be used as the sole criterion for

determining eligibility for speech-language services as specified in SBE/SER A.2.a.3. More than one evaluation procedure which addresses the same area (e.g., articulation, semantics, syntax) must be conducted to determine a student's eligibility. In addition, speech-language pathologists will use professional judgement in determining student eligibility for speech-language services. It should be noted that more than one service option may be utilized.

Fluency

RATING	CHARACTERISTICS	SERVICE OPTIONS
Within Normal Limits	The student's fluency is considered within normal limits when the student is fluent in conversational speech.	•No services warranted at this time.
Mild	The student's fluency is considered mildly disordered when one of more of the following are present: •Transitory dysfluent behaviors are observed in specific situation(s). •The dysfluency in a student's speech has a mild impact on social, academic, and/or vocational functioning. •Occasional changes in speaking rate do not interfere with communication. •Mild listener and/or speaker reaction noted.	•No services warranted at this time. •Monitor/track. •Consultative speech-language services. •Intermittent direct speech-language services.
Moderate	The student's fluency is considered moderately disordered when one or more or the following are present: •Frequent dysfluent behaviors are observed in many situations. •The student's speech interferes with social, academic, and/or vocational functioning. •Minimal avoidance of selected situations. •Rate of speaking intermittently interferes with the phrase boundaries, listener attention, and comprehension. •Moderate listener and/or speaker reaction and concern noted.	•Consultative speech-language services. •Intermittent direct speech-language services. •Intensive direct speech-language services.
Severe	The student's fluency is considered severely disordered when one or more of the following are present: •Habitual dysfluent behaviors are observed in a majority of situations. •The student's speech seriously limits social, academic, and/or vocational functioning. Avoidance of speaking situations is observed. •Rate of speaking is frequently disruptive to the listener and interferes with comprehension.	•Consultative speech-language services. •Intermittent direct speech-language services. •Intensive direct speech-language services. •Self-contained program.

RATING	CHARACTERISTICS	SERVICE OPTIONS
	•Severe listener and/or speaker reaction and concern noted.	

Language

RATING	CHARACTERISTICS	SERVICE OPTIONS (determined by IEP team)
Within Normal Limits	The student's language is considered within normal limits when one or more of the following are present: •Results of standardized diagnostic tests yield test scores: *in or above the 3rd stanine, above 16th percentile. *1 standard deviation below the mean or higher. *language quotient/standard score above 85, mean of 100. (If your test differs, refer to the normal distribution curve in Appendix E.) •Informal assessment indicates normal language functioning.	•No services warranted at this time.
Mild	The student's language is considered mildly disordered when one or more of the following characteristics are present: •Results of standardized diagnostic tests yield 2 subtest scores in a given area or total test scores in the: *2nd stanine, between 7-16th percentile. *1.0-1.5 standard deviations below mean. *language quotient/standard score of 78-85, mean of 100. (If your test differs, refer to the normal distribution curve in Appendix E.)	•No service at this time. •Monitor/track. •Consultative speech-language services with classroom teachers/other professionals. •Intermittent direct speech-language services.

RATING	CHARACTERISTICS	SERVICE OPTIONS (determined by IEP team)
	•Non-standardized assessment indicates a language deficit. Educational progress may be affected. The student has some difficulty expressing and/or understanding ideas and concepts, however, the listener is able to understand the message. •Student's language disorder has minimal impact on social, academic, and/or vocational functioning.	
Moderate	The student's language is considered moderately disordered when one or more of the following characteristics are present: •Results of standardized diagnostic tests yield 2 subtest scores in a given area or total test scores in the: *2nd stanine, between 3-6th percentile. *1.5-2.0 standard deviations below the mean. *language quotient/standard score of 70-77, mean of 100. If your test differs, refer to the normal distribution curve in Appendix E.) •Informal assessment indicates a language deficit which usually interferes with communication. The student has difficulty understanding and/or expressing ideas and concepts. Most of the time, the listener is able to interpret essential information. •Student's language disorder has moderate impact on social, academic, and/or vocational functioning.	•Consultative speech-language services. •Intermittent direct speech-language services. •Intensive direct speech-language services.
Severe	The student's language is considered severely disordered when one or more of the following are present: •Results of standardized diagnostic tests yield 2 subtest scores in a given area or a total test score in the: *1st stanine, below 3rd percentile. *more than 2.0 standard deviations below the mean.	•Consultative speech-language services. •Intermittent direct speech-language services. •Intensive direct speech-language services. •Self-contained program.

RATING	CHARACTERISTICS	SERVICE OPTIONS (determined by IEP team)
	*language quotient/standard score at or below 69, mean of 100. (If your test differs, refer to the normal distribution curve in Appendix E.) •Informal assessment indicates the student has limited functional language skills. Conversational rules are violated so that the listener is not able to comprehend the meaning of the intended message. •Student's language disorder has a severe impact on social, academic, and/or vocational functioning.	

Phonology/Articulation

RATING	CHARACTERISTICS	SERVICE OPTIONS
Within Normal Limits	The student's articulation is considered within normal limits when connected speech is intelligible and within developmental norms. *(See Appendix H.)*	•No services warranted at this time.
Mild	The student's articulation is considered mildly disordered when one or more of the following characteristics are present: •1 non-developmental phoneme error is present. •1 phonological process is deficit. •student's speech has minimal impact on social, academic, and/or vocational functioning.	•No service at this time. •Monitor/track. •Consultative speech-language services. •Intermittent direct speech-language service.
Moderate	The student's articulation is considered moderately disordered when one or more of the following are present: •2 non-developmental phoneme errors are present. *(See Appendix H.)* •2 phonological processes are deficit. •After age 9, any one consistent phoneme error is present or phonological process is deficit.	•Consultative speech-language services. •Intermittent direct speech-language services. •Intensive direct speech-language services.

RATING	CHARACTERISTICS	SERVICE OPTIONS
	•Student's speech has moderate impact on social, academic, and/or vocational functioning. *(See Appendix H.)*	
Severe	The student's articulation is considered severely disordered when one or more of the following are present: •3 or more non-developmental errors are present. *(See Appendix H.)* •3 or more phonological processes are deficit. •Student's speech has severe impact on social, academic, and/or vocational functioning. •Connected speech is frequently unintelligible unless gestures and cues are present or subject in known.	•Consultative speech-language services. •Intermittent direct speech-language services. •Intensive direct speech-language services. •Self-contained program.

When considering the severity of the articulation disorder, the speech-language pathologist should consider how the student's intelligibility is affected by the frequency of occurrence of incorrect sounds and the type of error (e.g., phononlogical processes or omission compared to distortion, lateralization, nondevelopmental substitutions). The following is a developmental scale which may be useful in making judgements as to the severity of communication deficits.

*IOWA DEVELOPMENTAL SCALE		Age at which 90% of children have acquired phoneme development.
**Age 3	m,n,h,w,p,b,d,k	
Age 4	t,g	
Age 5 & 6	f,j,v,tʃ,ʒ	
Age 7	dʒ,ʃ	
Age 8	l,r,θ	
***Age 9	s,z,ŋ	

*Refer to USOE CD Guidelines, Appendix H.
**According to Templin (1957) norms, by age 3 all vowels except ɚ)
***According to Saunders (1972) norms, the ʒ phoneme develops by age 9.

NOTE: The vowelized ɚ is worked with at the same time as r.

Voice

CAUTION:
A student who has a suspected laryngael-based voice disorder and has not been evaluated by a primary care physician or ENT specialist may not receive voice therapy from the SLP.

RATING	CHARACTERISTICS	SERVICE OPTIONS
Within Normal Limits	The student's voice is considered within normal limits when nothing unusual is noted in voice production (quality, pitch, or intensity) in conversational speech.	•No services warranted at this time.
Mild	The student's voice is considered mildly disordered when mild differences are noted in voice production (quality, pitch, or intensity) in conversational speech.	•No services warranted at this time. •Monitor/track. •Consultative speech-language services. •Intermittent direct speech-language services.
Moderate	The student's voice is considered moderately disordered when one or more of the following are present: •Moderate differences are noted in voice production (quality, pitch, or intensity) in conversational speech. •The voice difference is noticed by the casual listener.	•Consultative speech-language services. •Intermittent direct speech-language services. •Intensive direct speech-language services.
Severe	The student's voice is considered severely disordered when one or more of the following are present: •Severe differences are noted in voice production (quality, pitch, or intensity) in conversational speech. •The voice difference is distracting to the listener.	•Consultative speech-language services. •Intermittent direct speech-language services. •Intensive direct speech-language services. •Self-contained program.

Section V Service Delivery

A. **Purpose:** The purpose of this section is to provide the SLPs with a continuum of service delivery models that would be appropriate in an Individualized Education Program (IEP). It should be noted that more than one service delivery pattern can be utilized for an individual student.

B. **Outcome:** All communication disordered students will receive appropriate services based on their needs as identified on the IEP.

C. **Overview:** Included in this section are: service delivery models, caseload size, and related services to other disabilities.

D. **Service Delivery Models:** A continuum of service delivery models include the following:

1. *Consultation (Indirect Service)*: The SLP does not deliver services to the student directly, but rather, trains the classroom teacher, special education/resource room teacher, parents, peer tutors, and/or assistants in methods of intervention. The SLP maintains responsibility for developing, managing, coordinating, and evaluating the intervention program. The consultation service delivery model may be used exclusively or in conjunction with any of the other direct service models.

2. *Intermittent Direct Service*: The SLP is the primary implementor, providing direct therapy to students individually or in groups. Students are seen less than daily. Students may be serviced in a pull-out and/or a classroom-team teaching model. The classroom-team teaching model is utilized when the student's communication needs can be met in a group setting and may include the regular education, resource and self-contained special education classrooms.

3. *Intensive Direct Service*: Intensive direct service may include an intervention schedule from several times per week to daily. Students may be seen individually or in small groups. The SLP is the primary implementor.

4. *Self-Contained CD Classroom*: The SLP is responsible for intensive direct service, plus academic instruction. In addition, intermittent direct service may also be provided when necessary.

E. **Caseload Size**

1. Maximum Pupil-Teach Ratio for Service Patterns. Local school district administration will oversee the caseload of each special educator (including psychologists, social workers, SLPs, audiologists, occupational therapists, physical therapists, adaptive P.E. specialists, and any other related servers)

taking into account the number of students, the hours of service per student, the pupil/teacher ratio during instruction, and the number of students with severe disabilities served more intensively.

The following is a sample method for determining an appropriate caseload size for CDSs. Using this method, the greater the severity and needed service of the disabling condition, the lower the caseload size would be. Districts may utilize this or a similar method when determining maximum caseloads. The maximums stated are not intended as minimums, or as goals, or standards to achieve. The 60 student caseload may not be exceeded by any CDS in the state, as per SBE/SER VI.F.

Points will be distributed in the following manner, based on severity:

mild = 1 point	moderate = 2 points
severe = 3 points	self-contained CD = 4 points

Examples:

60 mild students @ 1 point = 60 points

30 mild students @ 1 point plus 15 moderate students @ 2 points = 60 points

15 severe students (self-contained CD with SLP as primary server) @ 4 points = 60 points

Refer to SBE/SER VI.F. for information regarding maximum pupil-teacher ratio for service patterns.

F. Related Services to Other Disabling Conditions

Students who are classified as having a primary disabling condition other than communication disordered may receive speech-language services if the multidisciplinary team determines that the services are necessary. Consultation, intermittent direct services, or intensive direct services might be appropriate depending on the severity of the student's communication skills.

Section VI Termination of Services

A. **Purpose:** The purpose of this section is to provide the multidisciplinary team with appropriate criteria for termination of CD services.

B. **Outcome:** The expected outcome is to improve the consistency of criteria used to terminate services throughout the state.

C. **Declassification:** The IEP team has determined the child is no longer CD disabled under state rules for classification.

D. **Termination Criteria:** A student can be terminated from the speech-language program when one or more of the following conditions are present as determined by the IEP team. These criteria must not be used to exclude provision of future services.

1. IEP speech-language annual goals and short-term objectives have been met.

2. Speech-language skills are developmentally appropriate or are no longer academically, socially, personally, or emotionally disabling. Documentation verifying this must be presented by one or more of the following: speech-language pathologists, teachers, parents, and/or students.

Section VII General Audiological Services

A. **Purpose:** The purpose of this section is to provide audiologists, hearing specialists, and/or SLPs with guidelines for the identification of students with hearing impairments.

B. **Outcome:** The expected outcome of this section is that students with hearing impairments which may affect educational or communicative performance will be identified.

C. **Overview:** Section VII contains information regarding general guidelines for hearing screening and rescreening protocol.

D. **General Guidelines for Hearing Screening Program**

1. Personnel - As screening programs are designed to identify large numbers of students, the test procedures may be conducted by personnel who are not audiologists, hearing specialists, or SLPs. The screening procedures should, however, be supervised by an audiologist, hearing specialist, or SLP. The personnel should be sufficiently trained in the procedures to obtain accurate and reliable results and this training should be documented.

2. Equipment - The screening protocol utilizes at a minimum a pure-tone audiometer. A complete program should also include an otoscope and an acoustic immittance instrument. A daily equipment check, including listening through the earphones and visual inspection of all equipment, should be done to assure proper functioning. Each piece of equipment should be electroacoustically calibrated annually in accordance with ANSI standards (ANSI S 3.6 1969; ANSI 3.39 1987). Otoscope specula and tympanometric tips should be appropriately cleaned and disinfected between each use. Alternately disposable specula may be used.

3. Testing Environment - It is important to carefully select the screening environment in order to assure accurate results. Areas with excessive ambient noise may mask the signals used in the test. It is important for examiners to be aware of any visual or acoustic distractions which will draw attention away from the screening procedure.

4. Students to be Screened - Local districts should develop a plan to identify all students who may have a hearing impairment. Districts may screen at any grade level; students who most commonly receive audiological screening include:

   a. All preschool students*

   b. All kindergarten students*

   c. Primary elementary grades (1,2,3)*

d. Any students that are new to the district*

e. High risk students:
   1) Students who repeat a grade.
   2) Students receiving any special education services (including self-contained, resource, behavioral disorders, speech-language, etc.).
   3) Students who are exposed to hazardous environmental noise levels.

f. Students referred by classroom teachers and/or parents

(*A formal referral is not required to screen and rescreen these students if prior notice is given via media, district mail, etc.)

E. **Screening Protocol:** The screening procedures described below are guidelines, but may be altered to meet individual district needs. If modifications are necessary, it is recommended that districts consult an audiologist. At a minimum, district programs should include an inspection of the external ear and pure-tone screening. Depending on the availability of follow-up services, immittance screening should also be provided.

1. Examination of the ear - Prior to pure-tone screening, or tympanometry, a brief inspection of the ear should be conducted. If any of the following conditions are noted, the child fails this screening:

   a. Structural abnormalities

   b. Any drainage from the ear

   c. Abnormal ear odor

   Otoscopy to determine ear canal blockage or ear drum abnormalities is encouraged if immittance screening is conducted (only by someone trained in the procedure).

2. Pure-tone screening - Screening should be conducted at 20 dB for 1000 Hz, 2000 Hz, and 4000 Hz in both ears. Criteria for failure is a lack of response to any one frequency in either ear.

3. Tympanometry (immittance screening) - The recommended procedure is presented in ASHA 32, Sept. 2, 1990. It is recognized that not all equipment currently in use can provide the necessary data. If equipment available does not provide a measurement of gradient, the alternative guidelines may be used.

   a. *Pre-referred procedure*: A tympanogram should be run on each ear. Any one of the following are criteria for failure:
      1) Static admittance less than .2 cc.

2) Volume measurement greater than 1.5 cm or less than .4 cm.

3) Width of the tympanogram: An abnormally wide tympanogram will have a gradient less than 20% or a tympanometric width greater than 150 daPa (mmH20). The gradient value is provided by many current tympanometers. The tympanometric width is determined directly from the tympanogram using the following steps:

a) Determine 1/2 static admittance value.

b) Mark the 1/2 static admittance point on the negative and positive sides of the tympanogram peak.

c) Measure the distance between these two marks in daPa (mmH20). A template which can be used to make this measurement is described in the ASHA article listed above.

b. *Alternative method*: (Note: this method was recommended by ASHA prior to 1990 [ASHA, 1979]. It may result in over-referrals to physicians and is not as sensitive to middle ear pathology. Every effort should be made to update equipment so the preferred guidelines can be used.) Do a tympanogram and an acoustic reflex screening in each ear. Criteria for failure is any one of the following:

1) Tympanometric peak pressure absent (flat) or worse than -200 daPa (mmH20).

2) Lack of acoustic reflex at 105 dB ipsilateral or contralateral.

F. Rescreening Protocol:

1. A child who fails any of the above screening procedures should be rescreened in approximately four weeks. The following are exceptions:

   a. Structural abnormality, drainage from the ear, or acute pain should result in an immediate medical referral.

   b. If the volume measurement is lower than the normal range and the otoscopic examination indicates a canal blockage, a medical referral should be made.

   c. If the pure-tone screening is failed and a teacher or parent has expressed concerns, a referral to an audiologist is necessary.

2. Failure of any rescreening should result in an audiologic evaluation. At this point permission to evaluate is required. The type of referral may depend on the characteristics of the screening program and availability of services. Refer to SBE/SER III.D.2.e.

   NOTE: *In some cases it may be appropriate to advise the parent to consult a physician following the hearing screening and/or audiologic evaluation.*

APPENDICES

NOTE: Materials included in the Appendices are examples only. They are not intended to be used as official state documents, nor does the Utah State Office of Education, Special Education Services Unit endorse any referenced documents.

APPENDIX A
Core Curriculum

NOTE: The following pages contain the entire language arts core curriculum (K-6). The core is provided to assist classroom teachers in identifying the language skills which should be mastered by their students. It is felt that the core curriculum could be used as a yardstick to judge a students' language proficiency.

The language arts core curriculum, revised 1991, grades 7-12, Utah State Board of Education, is available in all secondary schools and at the Utah State Office of Education, 250 East 500 South, Salt Lake City, Utah 84111. (This is a 1/2-inch bound document which could not be practically included in this CD Guidelines.)

LANGUAGE ARTS LEVEL K

L	A	L	E	V	E	L	K			

SIS NUMBER: 4000
SIS CODE: LA

COURSE DESCRIPTION, (Levels K-6)

The course of study for language arts will ensure that each student will have mastered the basic skills of listening, speaking, reading, spelling, and penmanship. Through oral and written language, students will develop and expand their concepts of themselves, people, places, and events in the world around them. Skills in drama emphasize the role of the student as a participant, observer/listener, and critic, as well as enriching the language arts.

CORE STANDARDS OF THE COURSE

STANDARD 4000-01	The students will learn to attend to verbal information. (LISTENING)

OBJECTIVES

4000-0101. Listen to the person who is speaking.

4000-0102. Follow one- and two-step directions.

4000-0103. Recall specific information.

4000-0104. Recall information in sequence.

4000-0105. Listen to literary selections read aloud.

STANDARD 4000-02	The students will share their thoughts in speech, using vocabulary appropriate to age and situation. (SPEAKING)

OBJECTIVES

4000-0201. Enunciate sounds so others can understand what is said.

4000-0202. Speak with the appropriate volume for the situation.

4000-0203. Recite correctly their name and telephone number.

4000-0204. Sing short songs and recite short poems from memory.

4000-0205. Report events in a sequential order.

4000-0206. Tell how things look, feel, sound, taste, and smell.

STANDARD 4000-03	The students will learn the auditory and visual discrimination skills necessary to recognize letters and understand sound-symbol relationships. (READING)

OBJECTIVES

4000-0301. Discriminate visual and auditory likenesses and differences.

4000-0302. Identify upper and lower case letters by name and by sound.

4000-0303. Demonstrate left-to-right, top-to-bottom, front-to-back beginning-end orientation as related to print.

4000-0304. Ask questions about print; e.g., signs, labels, books.

4000-0305. Associate spoken words with written form.

STANDARD 4000-04	The students will become familiar with different kinds of literature and respond creatively through art, music, drama, and dance. (LITERATURE)

OBJECTIVES

4000-0401. Help select materials to be read aloud to them.

4000-0402. Respond to nursery rhymes, poems, stories, and picture books; e.g., draw a picture, sing a song, make simple puppets, and participate in role playing.

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STANDARD 4000-05	The students will develop spelling readiness skills. (SPELLING)

OBJECTIVES

4000-0501. Recognize that letters represent sounds in words.

4000-0502. Recognize that letters are arranged in left-to-right sequence to form words.

4000-0503. Recognize their name in print.

4000-0504. Spell their first name.

STANDARD 4000-06	The students will print legibly, using the correct formation of the manuscript letters. (PENMANSHIP)

OBJECTIVES

4000-0601. Write manuscript letters.

4000-0602. Write name.

4000-0603. Write digits 0 to 9.

STANDARD 4000-07	The students will share their ideas and experiences in written form to be recorded by a scribe or themselves. (WRITTEN COMPOSITION)

OBJECTIVES

4000-0701. Record or dictate words, sentences, stories, and experiences.

4000-0702. Share recorded events with others.

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STANDARD 4000-08	The students will learn about and experience the techniques of drama. (DRAMA: Participant, Observer/Listener, Critic)

OBJECTIVES

4000-0801.	Role-play experiences with each of the five senses; e.g., smelling a flower, hearing a train.
4000-0802.	Express real or imaginary ideas through playacting.
4000-0803.	Demonstrate an awareness of personal space.
4000-0804.	Retell the sequence of events in a simple play or story.
4000-0805.	Demonstrate appropriate behavior when viewing and listening to a performance.
4000-0806.	Produce simple sound effects for stories or plays.

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LANGUAGE ARTS LEVEL 1

LA LEVEL 1

SIS NUMBER: 4010
SIS CODE: LA

CORE STANDARDS OF THE COURSE

STANDARD 4010-01	The students will listen to verbal information and demonstrate literal understanding. (LISTENING)

OBJECTIVES

4010-0101. Listen to the person who is speaking.

4010-0102. Listen to information without interrupting.

4010-0103. Follow two- and three-step directions.

4010-0104. Recall specific information.

4010-0105. Recall information in sequence.

4010-0106. Demonstrate comprehension of literary selections read aloud.

STANDARD 4010-02	The students will share their thoughts in speech, using vocabulary appropriate to age and situation. (SPEAKING)

OBJECTIVES

4010-0201. Enunciate sounds so they can be understood.

4010-0202. Speak with the appropriate volume for the situation.

4010-0203. Recite their address correctly.

4010-0204. Sing songs and recite selected poems from memory.

4010-0205 Tell how things look, feel, sound, taste, and smell.

4010-0206. Answer questions accurately.

4010-0207. Ask questions to meet their needs.

4010-0208. Explain simple processes, activities, and experiences.

4010-0209. Stay on the topic when telling information or talking to others.

STANDARD 4010-03	The students will use phonics and sight recognition to decode words. They will begin to develop comprehension skills. (READING)

OBJECTIVES

4010-0301. Identify left-to-right, top-to-bottom, and front-to-back orientation as related to print.

4010-0302. Know consonant sounds, blends, and digraphs in all positions.

4010-0303. Know short and long vowel sounds as they appear in the reading scope and sequence.

4010-0304. Recognize appropriate phonograms (word families).

4010-0305. Use structural analysis to read contractions, compound words, singular and plural forms of words, and possessives on the students' level.

4010-0306. Read sight words and basal vocabulary as they appear in the reading program.

4010-0307. Comprehend word and sentence meaning in context.

4010-0308. Identify antonyms and synonyms on the students' instructional level.

4010-0309. Discriminate between a statement and a question.

4010-0310. Recognize alphabetical order by first letter.

STANDARD 4010-04	The students will respond to stories and poetry that they read themselves or that are read to them. (LITERATURE)

OBJECTIVES

4010-0401. Read or listen to self-selected materials.

4010-0402. Retell sequence of events in stories they have read.

4010-0403. Tell which selections are real and which are make-believe.

4010-0404. Answer questions relating to details in a story.

4010-0405. Experience a variety of literary forms.

STANDARD 4010-05	The students will develop skills in the correct spelling of words. (SPELLING)

OBJECTIVES

4010-0501. Develop visual and auditory memory of words.

4010-0502. Identify simple patterns needed to spell words; e.g., CVC, CVCe.

4010-0503. Spell a first grade basic word list.

4010-0504. Write words from dictation.

4010-0505. Understand meaning of assigned spelling words.

STANDARD 4010-06	The students will print legibly. (PENMANSHIP)

OBJECTIVES

4010-0601. Write manuscript letters and numbers.

4010-0602. Space letters and words correctly on lines.

4010-0603. Write first and last name.

4010-0604. Demonstrate neatness in written work.

STANDARD 4010-07	The students will express ideas and experiences in written form. (WRITTEN COMPOSITION)

OBJECTIVES

4010-0701. Share ideas for writing.

4010-0702. Write personal experiences and stories.

4010-0703. Share written work with others.

STANDARD 4010-08	The students will learn about and experience the techniques of drama. (DRAMA: Participant, Observer/Listener, Critic)

OBJECTIVES

4010-0801. Improvise experiences with each of the five senses to interpret various environments; e.g., seashore, woods, city street.

4010-0802. Memorize and recite short selections.

4010-0803. Participate in choral speaking.

4010-0804. Demonstrate different ways the body and its parts can move, such as pushing/pulling, reaching/bending, lifting/dropping, etc.

4010-0805. Use the face, voice, and body to express emotions; e.g., happiness, surprise, fear.

4010-0806. Role-play a simple character through actions.

4010-0807. Demonstrate appropriate behavior when viewing and listening to a performance.

4010-0808. Use simple props for stories or plays.

LANGUAGE ARTS LEVEL 2

L	A	L	E	V	E	L	2			

SIS NUMBER: 4020
SIS CODE: LA

CORE STANDARDS OF THE COURSE

STANDARD 4020-01	The students will listen to verbal information and demonstrate literal and inferential understanding. (LISTENING)

OBJECTIVES

4020-0101. Listen to the person who is speaking.

4020-0102. Follow two- and three-step directions.

4020-0103. Retell specific details of information, such as sequence of events.

4020-0104. Demonstrate comprehension of literary selections read aloud to them by drawing a picture, acting out the dialogue, writing a story, etc.

STANDARD 4020-02	The students will express ideas and opinions as they increase their spoken vocabulary. (SPEAKING)

OBJECTIVES

4020-0201. Use vocabulary appropriate to the situation.

4020-0202. Recite second grade selections individually and as part of choral speaking.

4020-0203. Contribute remarks or ask questions related to topics being discussed.

4020-0204. Explain processes and activities or give sequential directions how to play a game, where to find the principal's office.

STANDARD 4020-03	The students will use phonetic, structural, and sight word recognition skills in expanding their reading vocabularies. They will increase their comprehension of sentences and stories. (READING)

OBJECTIVES

4020-0301.	Know sound-symbol relationships of consonants and vowels as presented in the reading scope and sequence.
4020-0302.	Use structural analysis to pronounce contractions, compound words, possessives, singular and plural forms of words.
4020-0303.	Identify suffixes and prefixes, and read multisyllable words.
4020-0304.	Read the sight words and basal vocabulary required by the reading program.
4020-0305.	Know antonyms, synonyms, homonyms, and multiple meaning words on the students' instructional level.
4020-0306.	Identify the referent for most pronouns in context.
4020-0307.	Comprehend word and sentence meanings.
4020-0308.	Discriminate between a statement and a question.
4020-0309.	Read and follow directions.
4020-0310.	Alphabetize up to second letter.

STANDARD 4020-04	The students will understand literal information and inferred meaning as they expand their reading interests. (LITERATURE)

OBJECTIVES

4020-0401.	Read a variety of self-selected material.
4020-0402.	Identify main ideas and note the supporting details.
4020-0403.	Recall the sequence of events in a story.
4020-0404.	Identify characters, events, and settings.

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4020-0405. Tell whether a selection is fantasy or if it could really have happened and why.

4020-0406. Respond creatively to poems, stories, and books.

STANDARD 4020-05	The students will learn the correct spelling of words. (SPELLING)

OBJECTIVES

4020-0501. Develop visual and auditory memory of words.

4020-0502. Make generalizations about common spelling patterns.

4020-0503. Spell a second grade basic word list.

4020-0504. Write words and sentences from dictation.

4020-0505. Discriminate between correct and incorrect spelling of words on the students' level.

4020-0506. Show understanding of spelling words by being able to tell what they mean or by using them in a sentence.

STANDARD 4020-06	The students will print legibly. (PENMANSHIP)

OBJECTIVES

4020-0601. Demonstrate correct formation and spacing of manuscript letters, words, and numbers.

4020-0602. Write name, address, and telephone number correctly.

4020-0603. Correct their own handwriting.

4020-0604. Demonstrate neatness in written work.

STANDARD 4020-07	The students will express ideas and experiences in written form. (WRITTEN COMPOSITION)

OBJECTIVES

4020-0701. Generate ideas for writing.

4020-0702. Write personal experiences, stories, poetry, friendly letters, etc.

4020-0703. Recognize complete sentences.

4020-0704. Share written work with others.

4020-0705. Use capital letters, periods, and questions marks.

STANDARD 4020-08	The students will learn about and experience the techniques of drama. (DRAMA: Participant, Observer/Listener, Critic)

STANDARDS

4020-0801. Pantomime the use of each of the senses tasting a lemon, touching a hot plate, hearing a loud noise.

4020-0802. Improvise a scene or story with others.

4020-0803. Speak before a group of peers; e.g., Show and Tell.

4020-0804. Improvise body movements in response to pictures, sounds, music, stories, etc.

4020-0805. Improvise dialogue in response to pictures, sounds, music, or stories, etc.

4020-0806. Develop a dialogue and actions appropriate for characters in a story or play.

4020-0807. Demonstrate appropriate behavior when listening to and viewing a performance by peers or others.

4020-0808. Create and operate a puppet; e.g., paper sack, sock, finger, to represent a given character.

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LANGUAGE ARTS LEVEL 3

L	A	L	E	V	E	L	3			

SIS NUMBER: 4030
SIS CODE: LA

CORE STANDARDS OF THE COURSE

STANDARD 4030-01	The students will listen to verbal information and show literal and inferential comprehension. (LISTENING)

OBJECTIVES

4030-0101. Pay attention to the teacher or to others who are speaking or presenting.

4030-0102. Follow three- and four-step directions correctly.

4030-0103. Tell major points or sequence of events.

4030-0104. Respond to speakers; e.g., ask questions and make contributions.

4030-0105. React to literary selections read aloud.

STANDARD 4030-02	The students will verbally express ideas, opinions, and reactions in a variety of situations. (SPEAKING)

OBJECTIVES

4030-0201. Recite third grade selections clearly and fluently.

4030-0202. Express and support personal opinions about topics presented.

4030-0203. Respond to opinions expressed by others.

4030-0204. Explain how to do something or tell about an event.

4030-0205. Answer questions accurately.

4030-0206. Ask appropriate questions when additional information is needed.

STANDARD 4030-03	The students will demonstrate accuracy and efficiency in decoding words; increase their knowledge of word, sentence, and paragraph meaning; and apply beginning study skills. (READING)

OBJECTIVES

4030-0301. Build fluency in phonetic and structural analysis skills.

4030-0302. Identify the meaning of affixes and root (base) words as they occur in the reading task.

4030-0303. Know the correct meaning of common homonyms in context.

4030-0304. Attack multisyllable words systematically; e.g., prefix, root word, ending.

4030-0305. Read the sight words and basal vocabulary as they appear in the reading program.

4030-0306. Comprehend word, sentence, and paragraph meanings in context.

4030-0307. Recognize main ideas in a selection.

4030-0308. Alphabetize to the third letter.

4030-0309. Read and follow directions.

STANDARD 4030-04	The students will read fiction and non-fiction literature and increase their involvement with children's classics. (LITERATURE)

OBJECTIVES

4030-0401. Read a variety of self-selected materials.

4030-0402. Retell storylines (plots) in the selections.

4030-0403. Predict logical conclusions to events in the selection.

4030-0404. Compare characters, events, plots, and settings.

4030-0405. Recognize cause and effect relationships.

STANDARD 4030-05	The students will correctly spell words needed to record ideas and experiences. (SPELLING)

OBJECTIVES

4030-0501. Utilize major spelling generalizations; e.g., same vowel sound/different spellings.

4030-0502. Spell a basic word list as adopted by the school.

4030-0503. Write words and sentences with correct punctuation and capitalization.

4030-0504. Discriminate between correct and incorrect spelling of words on level.

4030-0505. Spell homonyms and contractions correctly.

4030-0506. Show understanding of spelling words by telling what they mean or using them in a sentence.

STANDARD 4030-06	The students will maintain manuscript skills and learn to write cursive. (PENMANSHIP)

OBJECTIVES

4030-0601. Use correct formation of all upper and lower case letters and numbers in cursive.

4030-0602. Use proper strokes to join letters to form words.

4030-0603. Proof and correct their own handwriting.

4030-0604. Demonstrate neatness in written work.

STANDARD 4030-07	The students will express ideas and experiences in written form. (WRITTEN COMPOSITION)

OBJECTIVES

4030-0701. Generate and organize ideas for writing.

4030-0702. Write personal experiences, stories, poetry, etc.

4030-0703. Write letters and informative selections.

4030-0704. Expand thoughts in sentences by adding words and phrases.

4030-0705. Combine sentences to improve communication.

4030-0706. Share and respond to the writing of others.

4030-0707. Use capital letters and terminal punctuation as well as recognize nouns and verbs.

STANDARD 4030-08	The students will learn about and experience the techniques of drama. (DRAMA: Participant, Observer/Listener, Critic)

OBJECTIVES

4030-0801. Participate in a group improvisation of a story.

4030-0802. Stay in character in a short play or skit.

4030-0803. Speak expressively in a choral or storytelling situation.

4030-0804. Describe the feelings portrayed in a given picture or situation.

4030-0805. Identify the setting, plot, and characters in a simple play or story.

4030-0806. Demonstrate and discuss appropriate behavior when viewing a performance.

4030-0807. Give personal reactions after viewing a performance.

4030-0808. Make and/or use simple props or costumes to help portray a character.

LANGUAGE ARTS LEVEL 4

L	A	L	E	V	E	L	4			

SIS NUMBER: 4040
SIS CODE: LA

CORE STANDARDS OF THE COURSE

STANDARD 4040-01	The students will listen at different levels of understanding and respond with appropriate words or actions. (LISTENING)

OBJECTIVES

4040-0101. Follow three- or four-step directions.

4040-0102. Retell the story line (plot) of the narratives.

4040-0103. Draw conclusions from a speaker's message.

4040-0104. Listen attentively to comments of others.

4040-0105. Respond to speakers; e.g., ask questions and make contributions.

4040-0106. React to literary selections read aloud.

STANDARD 4040-02	The students will verbally communicate ideas, information, opinions, descriptions, and feelings as they participate in conversations and discussions. (SPEAKING)

OBJECTIVES

4040-0201. Answer and ask questions related to the topic.

4040-0202. Use expressive speech to add meaning and interest to personal experiences.

4040-0203. Continue to develop and expand spoken vocabularies.

4040-0204. Select a subject of interest and speak about it.

4040-0205. Memorize and recite poetry, and perform creative dramatics.

4040-0206. Contribute ideas in group discussions.

4040-0207. Use appropriate language in formal and informal situations.

STANDARD 4040-03	The students will increase their reading vocabularies through structural and contextual clues, and strengthen comprehension techniques, particularly reading study skills. (READING)

OBJECTIVES

4040-0301. Apply sound-symbol relationships and structural analysis to word recognition.

4040-0302. Develop fluency in oral reading by using intonation and expression and by observing punctuation conventions.

4040-0303. Develop greater knowledge of word meanings through contextual clues.

4040-0304. Answer written and oral questions that require recall of facts.

4040-0305. Retell the story lines (plots) of the narratives or list sequence of events in a reading selection.

4040-0306. Locate main ideas and identify important details in written selections.

4040-0307. Identify fact and opinion elements in a written selection.

4040-0308. Predict a logical outcome of a reading selection.

4040-0309. Use books, people, and reference materials as sources for information.

4040-0310. Interpret basic symbols on graphs, legends, maps, charts, etc., found in grade level text.

4040-0311. Locate words in dictionary, using guide words, entry words, and pronunciation keys.

4040-0312. Read and follow directions.

STANDARD 4040-04	The students will expand their involvement with children's classics and authors while they increase the quality and quantity of self-selective reading. (LITERATURE)

OBJECTIVES

4040-0401. Read a variety of self-selected works.

4040-0402. Differentiate between fiction and non-fiction narratives.

4040-0403. Describe story elements: main characters, plots, and setting.

4040-0404. Interpret the meaning of figurative language as it occurs in context.

4040-0405. Recognize different purposes of reading selections; e.g., to inform, to persuade, to entertain.

4040-0406. Read poetry for content and feelings.

4040-0407. Express personal reactions to the authors' works.

STANDARD 4040-05	The students will correctly spell words needed to express ideas and information and demonstrate proficiency in cursive writing skills. (SPELLING AND PENMANSHIP)

OBJECTIVES

4040-0501. Recognize and correct misspelled words, using a dictionary when necessary.

4040-0502. Apply the patterns and rules that influence the spelling of words.

4040-0503. Master a basic word list as adopted by the school.

4040-0504. Discriminate between correct and incorrect spelling of words.

4040-0505. Produce a legible cursive manuscript.

4040-0506. Increase speed of writing while maintaining neatness.

STANDARD 4040-06	The students will increase skills using the writing process to express ideas and experiences related to self and others. (WRITTEN COMPOSITION)

OBJECTIVES

4040-0601. Use prewriting strategies; e.g., brainstorming, listing, mapping, etc.

4040-0602. Write personal compositions; e.g., friendly letters, journals, poems, or autobiographies.

4040-0603. Compare accurate descriptions of a variety of objects, people, or places; e.g., talk-write activity with art project, cooperative learning group activities, games, guided imagery, and records of weather observations.

4040-0604. Write stories; e.g., cliff hangers, new endings for old fairy tales, cumulative stories.

4040-0605. Prepare informative projects using resources from the library media center and other appropriate locations; e.g., news article, directions, poster/displays or television guides.

4040-0606. Compose selections to convince others of opinion; e.g., want ads, commercials, letters, bumper stickers, licence plates.

4040-0607. Continue to use nouns and verbs correctly within the writing process.

4040-0608. Share and respond to writing of others.

4040-0609. Practice the editing skills of correct spelling, legible writing, and punctuation (including quotation marks, commas, and apostrophes).

STANDARD 4040-07	The students will learn about and experience the techniques of drama. (DRAMA: Participant, Observer/Listener, Critic)

OBJECTIVES

4040-0701. Work cooperatively in planning improvisations or story dramatizations.

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4040-0702. Demonstrate appropriate movements and actions to communicate size, shape, and weight of imaginary objects.

4040-0703. Read a selection expressing appropriate emotion.

4040-0704. Describe the physical characteristics of a given character in a story or play.

4040-0705. Give and support opinions of a production.

4040-0706. Make up a character to fit a given costume piece; e.g., cowboy hat, shawl, glasses.

LANGUAGE ARTS LEVEL 5

L	A	L	E	V	E	L	5			

SIS NUMBER: 4050
SIS CODE: LA

CORE STANDARDS OF THE COURSE

STANDARD 4050-01	The students will develop critical listening skills for understanding verbal messages. (LISTENING)

OBJECTIVES

4050-0101. Follow multiple step directions correctly.

4050-0102. Retell sequence of events or major points after a listening experience.

4050-0103. Draw conclusions from a speaker's message.

4050-0104. Discriminate fact from opinion in a spoken presentation.

4050-0105. Listen attentively to comments of others.

STANDARD 4050-02	The students will expand vocabulary and oral language skills as they participate in discussions and make verbal presentations. (SPEAKING)

OBJECTIVES

4050-0201. Recite or read selections aloud using intonation and expression.

4050-0202. Ask questions to gain additional information.

4050-0203. Answer questions related to the topic.

4050-0204. Contribute ideas in group discussions.

4050-0205. Prepare, organize, and present an informal speech.

4050-0206. Use descriptive words, phrases, and sentences.

4050-0207. Memorize and recite poetry, short selections, and perform in plays.

4050-0208. Participate in the evaluation of ideas.

STANDARD 4050-03	The students will apply word recognition and study skills. They will expand their vocabulary and demonstrate higher level comprehension strategies. (READING)

OBJECTIVES

4050-0301. Use phonetic and structural analysis, as well as contextual clues, to decode words accurately and fluently.

4050-0302. Show understanding of vocabulary by giving synonyms or antonyms, completing an analogy, or using words in sentences.

4050-0303. Answer written or oral questions by paraphrasing major points, sequence of events, or classifying information.

4050-0304. Analyze cause and effect relationships.

4050-0305. Differentiate between fact and opinion, fiction and non-fiction writing.

4050-0306. Predict logical outcomes or state a reasonable conclusion.

4050-0307. Identify the purpose of a reading selection.

4050-0308. Interpret graphs, maps, charts, etc.

4050-0309. Read and follow multiple step directions.

4050-0310. Locate specific information in reference materials.

STANDARD 4050-04	The students will read literary selections and demonstrate their comprehension. (LITERATURE)

OBJECTIVES

4050-0401. Read a variety of self-selected materials.

4050-0402. Recognize character traits, identify setting, and recall story line (plot).

4050-0403. Interpret figurative language as it occurs in context.

4050-0404. Participate in related activities; e.g., perform in a play, illustrate story setting or action, and/or compare characters.

STANDARD 4050-05	The students will increase skills using the writing process to express ideas and experiences related to self and others. (WRITTEN COMPOSITION)

OBJECTIVES

4050-0501. Use prewriting strategies; e.g., brainstorming, listing, mapping, etc.

4050-0502. Compose descriptive selections; e.g., state travel brochures, description of natural phenomena, description of life during any historical period, journal entry from the point of view of a figure from history, description of an event, or a day of their life.

4050-0503. Write personal selections; e.g., journals, biographical events, friendly letters, greeting cards, thank you notes.

4050-0504. Write stories; e.g., a tall tale about a natural feature in the Western Hemisphere, sequel to favorite book, story about a historical event.

4050-0505. Prepare informative projects using appropriate reference materials from the library media center and other locations; e.g., newspapers, reports, posters, displays on states or regions, biographies.

4050-0506. Write selections to convince others of opinion; e.g., narrative for sale of self at auction, convince someone of the reasons for a class rule, take a stand on a community issue.

4050-0507. Group sentences sharing a common theme into paragraphs.

4050-0508. Share and respond to writing of others.

4050-0509. Practice the editing skills of correct spelling, legible writing, correct capitalization and punctuation, and use of adverb and adjective within the writing process.

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4050-0510. Publish a selected composition.

STANDARD 4050-06	The students will learn about and experience the techniques of drama. (DRAMA: Participant Observer/Listener, Critic)

OBJECTIVES

4050-0601. Offer positive comments and constructive suggestions to peers following classroom dramatic activities.

4050-0602. Use suggestions to improve dramatic activities.

050-0603. Create physical and emotional responses of a character from information given or implied by the story material.

4050-0604. Improvise a vocal and physical response to a given emotion.

4050-0605. Identify the conflict in simple dramatic productions, for example, hero versus villain.

4050-0606. Critique a production, supporting personal opinions with examples and making suggestions for improvement.

4050-0607. Identify the names for different jobs involved in dramatic productions; e.g., designer, technician, actor.

4050-0608. Show understanding of how meaning is influenced by pitch, rate, force, tone, and other vocal variables.

LANGUAGE ARTS LEVEL 6

L	A	L	E	V	E	L	6			

SIS NUMBER: 4060
SIS CODE: LA

CORE STANDARDS OF THE COURSE

STANDARD 4060-01	The students will develop critical listening skills for understanding verbal messages. (LISTENING)

OBJECTIVES

4060-0101. Identify relevant and irrelevant information from a speaker's message.

4060-0102. Identify bias, prejudice, or propaganda in oral presentations.

4060-0103. Record simple notes from an oral presentation.

4060-0104. Listen to others before responding.

4060-0105. Follow multiple step directions.

STANDARD 4060-02	The students will develop effective oral communication strategies for formal and informal situations. (SPEAKING)

OBJECTIVES

4060-0201. Communicate specific meanings through gestures, facial expressions, and tone of voice.

4060-0202. Contribute ideas in group discussions.

4060-0203. Use visual aids as needed to improve a verbal presentation.

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STANDARD 4060-03	The students will apply their reading skills to gain understanding in the content areas and in their recreational reading. (READING)

OBJECTIVES

4060-0301. Use reference materials as a source of information and to find answers to questions.

4060-0302. Summarize major points or sequence of events.

4060-0303. Acquire specific vocabulary needed to understand content in various areas of the curriculum.

4060-0304. Compile and organize notes from more than one printed resource on the same topic.

4060-0305. Adjust reading for different purposes; e.g., skimming a text and careful reading for difficult concepts.

STANDARD 4060-04	The students will read literary selections and demonstrate their comprehension. (LITERATURE)

OBJECTIVES

4060-0401. Identify the mood and/or underlying theme in a story or poem.

4060-0402. Recognize imagery and exaggeration.

4060-0403. Compare and contrast literary works; e.g., myths, legends, historical literature, biographies, science fiction, poetry.

4060-0404. Participate in related activities; e.g., study the author's life, create a new setting or time frame, dramatize part of the story, invent new characters.

4060-0405. Respond to literature through personal reactions.

4060-0406. Identify first person and third person narratives.

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STANDARD 4060-05	The students will increase skills using the writing process to express ideas and experiences related to self and others. (WRITTEN COMPOSITION)

OBJECTIVES

4060-0501.	Use prewriting strategies; e.g., brainstorming, listing, mapping, etc.
4060-0502.	Compose descriptive selections; e.g., advertisements, dream room or vehicle, description of best friend, myth to explain a natural phenomenon, observations of an experiment, how-to presentation.
4060-0503.	Write personal selections; e.g., year-book blurbs, time capsules, pen-pal letters, telegrams, own epitaph, journals, observations of significant events.
4060-0504.	Write stories that emphasize a theme; e.g., narrative poem or ballad, stories on a holiday tradition, science fiction, script of a fairy tale.
4060-0505.	Write selections to convince others of point of view; e.g., advertisements, blurbs, book jackets, billboards, campaign speeches, editorials, letters of advice to favorite characters from literature, "Dear Abby" letters and answers, letters to convince parents of need, rebuttal to a school policy or community issue.
4060-0506.	Prepare research projects using a variety of materials from the library media center and other locations; e.g., biographical presentation, undercover spy report, I-Search, favorite author report/presentation, newspaper of historical period, reports/posters/ projects on countries, vignette of an important person.
4060-0507.	Group sentences into paragraphs with a main idea and supporting details.
4050-0508.	Share and respond to writing of others.
4060-0509.	Practice the editing skills of correct spelling, capitalization, punctuation, pronoun use within the writing process, and legible writing,
4050-0510.	Publish a selected article.

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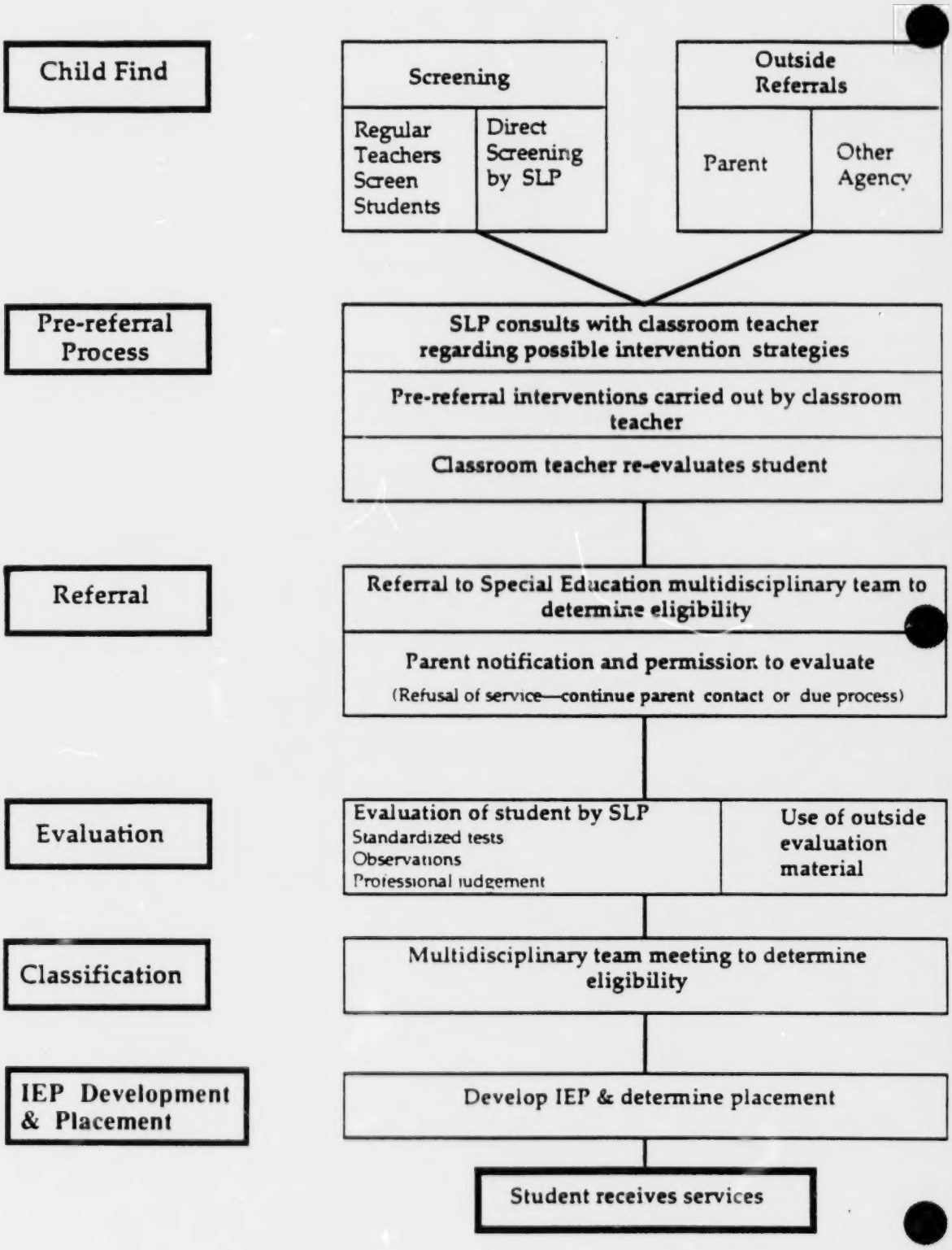
STANDARD 4060-06	The students will learn about and experience the techniques of drama. (DRAMA: Participant Observer/Listener, Critic)

OBJECTIVES

4060-0601.	Offer positive comments and constructive suggestions to peers following classroom dramatic activities.
4060-0602.	Use suggestions to improve dramatic activities.
4060-0603.	Develop sensitivity towards the feelings of otners through role-playing and improvising conflict situations.
4060-0604.	Use the voice to convey elements of characterization such as age, attitude, and education.
4060-0605.	Improvise a vocal and/or physical response suggested by a given picture.
4060-0606.	Make up or adapt a story dramatization, with a group of peers, including plot, conflict, setting, and characters.
4060-0607.	Compare strengths and/or weaknesses in two or more productions.
4060-0608.	Plan and make simple scenery for story dramatizations.

APPENDIX B
Flowchart of IEP Process

FLOW CHART FOR SPEECH/LANGUAGE SERVICES



APPENDIX C
Samples of Child Find Procedures/Pre-referral Documents

COMMUNICATIVE DISORDERS
PRE-REFERRAL INTERVENTIONS

Communication Delay—failure to comprehend and/or produce written or oral language at expected age levels. Language delayed children may exhibit difficulties in any of the following areas:

1. **Skill in communication**—limited awareness of listeners, speaks with little effort to evoke understanding from others; pace of words and inflection of voice not adjusted to listeners.
2. **Organization, purpose and control**—rambles, limited sense of order or of getting to the point; rattles on without purpose; cannot tell a story in proper sequence.
3. **Wealth of ideas/amount of language**—seldom expresses an idea; appears dull and unimaginative; doesn't originate suggestions or plans during play periods; seldom talks; rarely initiates; needs to be prompted to talk.
4. **Vocabulary**—uses meager vocabulary, far below that of most children this age; uses ambiguous words such as "thing", "stuff", "this", "that", etc.
5. **Quality of listening**—demonstrates poor comprehension of spoken language, inattentive, easily distracted.
6. **Quality of sentence structure**—omissions of structural elements including word endings such as -ed, -ing, plurals; uses only simple, active, declarative sentences; word order difficulties in question formations.

Interventions to try with students demonstrating any of the above difficulties include:

1. Based on above definitions, clearly define the child's problem. Your school's speech-language pathologist (SLP) would be happy to help you with this.
2. Check for recent hearing evaluation.
3. Model correct response on a consistent basis.
4. Use "who", "what", "where", "when" and "why" questions when a child's communication has been unsuccessful.
5. Use "yes/no" questions when a child's communication has been unsuccessful.
6. Expand upon a child's response to increase expressive communication.
7. Contact SLP if no improvement is seen after 3 weeks.

Articulation—The omission or incorrect production of a speech sound. Check chart below to determine if child is within normal limits of speech development. If child is beyond normal limits of speech development the following interventions apply:

1. Model goal sound correctly and ask child to imitate sould.
2. If successful with intervention #1 then 3-5 times per day, have the child use the goal sound correctly at the beginning of words.
3. If successful with intervention #2 then 3-5 times per day, have the child us the goal sound correctly at the middle and end of words.
4. If successful with intervention #3 then 3-5 times per day, have the child use goal sound in sentences. Attempt to increase the child's correct usage of his goal sound over time.
5. Refer to the SLP if there is no improvement in any of the above steps after 3 weeks.

Normal Speech Development

AGE	Should have these sounds
3	m, n, h, w, p, b, d, k
4	t, g
5 & 6	f, j, v, ʧ, ð
7	ʤ, ʃ
8	l, r, θ,
9	s, z, ŋ

Voce quality—a disorder of voice quality usually characterized by hoarseness or harshness.

1. Describe voice quality and indicate date you first observed abnormal quality.
2. Observe voice quality daily.
   a. Is it consistent throughout the day or does it vary and when?
   b. Does the child have consistent signs of a cold, sore throat, or runny nose?

(c '3)

c. Does the child demonstrate abusive voice behaviors such as screaming, shouting, loud sound (such as making car screeches or growling), or talking when out of breath?

3. Praise child for the following:
   a. Talking at normal loudness levels. (Do not encourage whispering with the child as it is actually more abusive to the voice than talking at regular loudness levels.)
   b. Talking in a calm, quiet manner.
   c. Five to ten times per day for not using abusive voice behaviors as stated in 2c.
4. Contact SLP if no improvement is seen after 2 weeks.

Fluency (Stuttering)—excessive disturbance in the normal fluency and timing of speech.

1. Record the number of times per day that you notice the child being disfluent (discontinue counting when you reach more than 20 incidents in one day).
2. Record the situations in which the child is disfluent (excited, reading, tired, attempting to gain attention).
3. Record other characteristics associated with the disfluencies such as eye blinks, head nodding, or other consistent body movements.

The main interventions to attempt with a disfluent child include the following:

1. Be patient and accepting of child's behaviors. Remember that <u>all</u> speakers are disfluent at some time.
2. Do not draw attention to the child's behaviors. This includes verbal and non-verbal attention such as eye widening, facial expressions or finishing the child's sentence.
3. Slow your own speech down; speak in a calm, gentle manner.
4. Contact SLP if no improvement is seen after 2 weeks.

Hearing loss and auditory processing—difficulty may be found in any of the following areas:

1. **Hearing loss**—may vary from slight to severe. Can impact a child's school performance.
2. **Auditory memory**—inability to remember what is heard.
3. **Auditory discrimination**—inability to differenciate between sounds, individually or in words.

4. **Auditory figure-ground**—inability to listen to important information while ignoring background noise.

Interventions to attempt with students demonstrating any of the above difficulties include:

1. Completion of the Auditory Processing Problems Checklist (see SLP at your school) to pinpoint difficulty and to make appropriate changes as described below (record any changes in behavior).
2. Check for recent hearing screening.
3. Change seating; as close as possible to where you usually teach and away from other noise sources (such as the pencil sharpener).
4. Ensure that the room is quiet during work and instruction periods.
5. Write instructions on the board.
6. When giving instruction speak slowly, stay in one place and face the student.
7. Repeat and/or simplify instructions; ask student or peers to restate your instructions.
8. Allow an appropriate waiting time to allow the student to think before responding.
9. Include a visual example (written words or pictures) when sounds are confused.

Note: Apparent ear aches or drainage from the ears requires immediate intervention. Notify parents and/or audiologist.

Public Notice

During the months of August, September and October, Granite School District will be conducting hearing screening tests on all first and third grade students. In addition, parents who have concerns about their child's speech, language or hearing may contact the speech-language pathologist at their school or call 481-7109 to obtain an evaluation.

FREE

CHILD DEVELOPMENT SCREENING

AVAILABLE TO ALL CHILDREN 2 1/2 THROUGH 5

SPONSORED BY

Davis County School District and
Davis County Interagency Coordinating Council for Prekindergarten Children

SCREENING WILL ASSESS THE AREAS OF:

Hearing	Vision
Motor skills	Talking/listening
Thinking skills	Play skills

MAY 5
LAYTON HILLS MALL
10 A.M. TO 2 P.M.

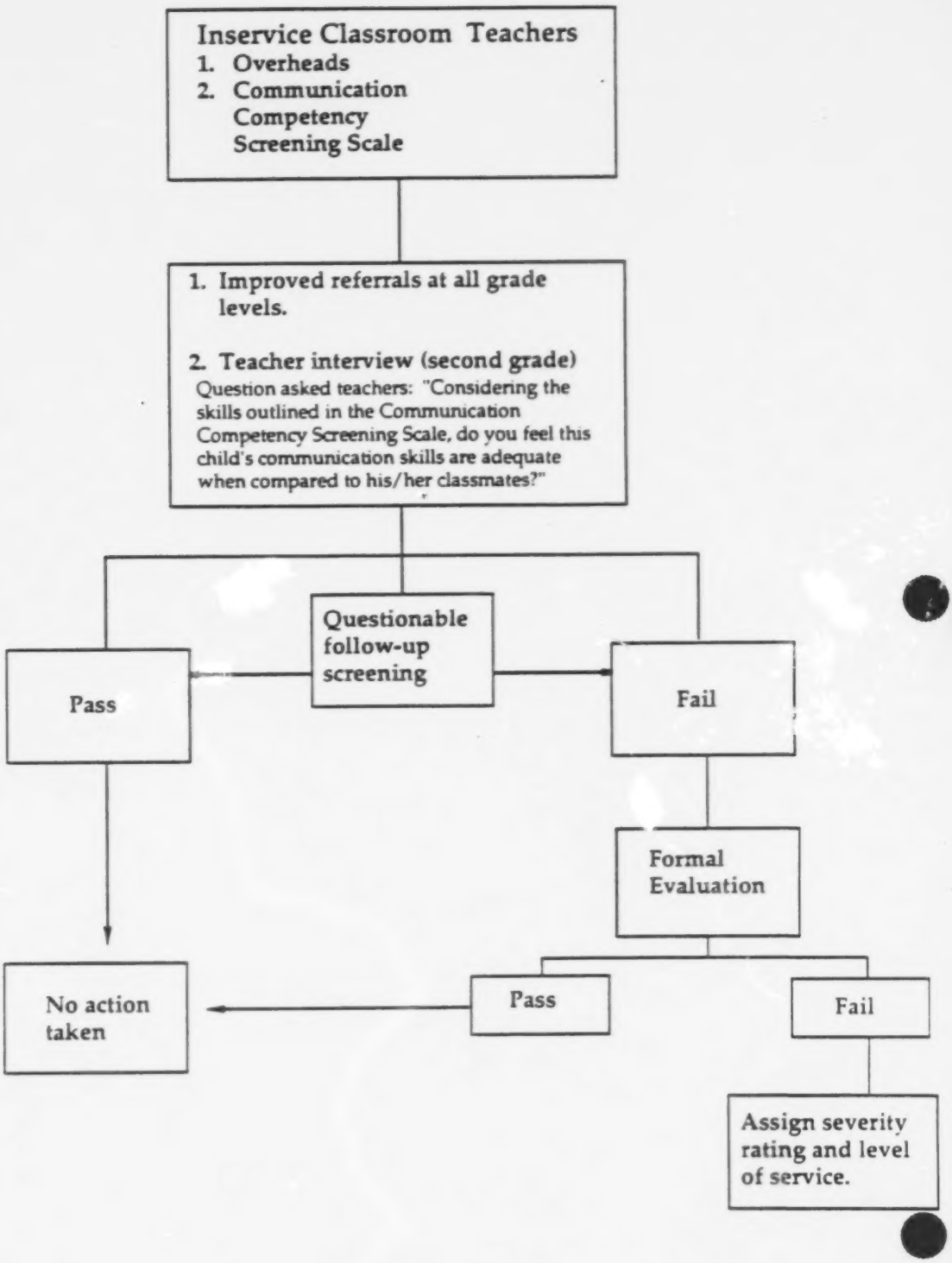
MAY 19
FIVE POINTS MALL
10 A.M. TO 2 P.M.

AN OPPORTUNITY FOR PARENTS TO HAVE A QUICK SCREENING OF THEIR CHILD'S GENERAL DEVELOPMENT TO IDENTIFY STRENGTHS AND WEAKNESSES.

PLAN FOR ABOUT 45 MINUTES PER CHILD
FOR ADDITIONAL INFORMATION CALL - 451-5071

(C7)

Teacher Interview Screening Method
Flow Chart


Inservice Classroom Teachers
1. Overheads
2. Communication Competency Screening Scale
1. Improved referrals at all grade levels.
2. Teacher interview (second grade)
Question asked teachers: "Considering the skills outlined in the Communication Competency Screening Scale, do you feel this child's communication skills are adequate when compared to his/her classmates?"
Pass
Questionable follow-up screening
Fail
Formal Evaluation
No action taken
Pass
Fail
Assign severity rating and level of service.

COMMUNICATION COMPETENCY SCREENING

	POOR			SUPERIOR
		POOR	ADEQUATE	SUPERIOR	
Skill in communication	limited awareness of listeners; speaks with little effort to evoke understanding from others, pace of words and inflection of voice not adjusted to listeners.				adjusts pace and inflection to listener; is aware of need to make self understood and can adjust content to listener's needs and responses.
Organization, purpose and control	rambles; limited sense of order or of getting to the point; rattles on without purpose; cannot tell a story in proper sequence.				plans what is said; gets to the point; controls language, can tell a story in proper sequence; speaks fluently
Wealth of ideas, amount of language	seldom expresses an idea; appears dull and unimaginative; doesn't originate suggestions or plans during play periods; seldom talks; rarely initiates; needs to be prompted to talk				expresses ideas on different topics; makes suggestions on what to do and how to carry out class plans; shows imagination and creativity in play; talks freely, frequently and easily.
Vocabulary	uses a meager vocabulary, far below that of most children this age; uses ambiguous words				uses a rich variety of words, has an exceptionally large and growing vocabulary
Quality of listening	demonstrates poor comprehension of spoken language; inattentive; easily distracted				superior understanding of spoken language; attentive
Quality of sentence structure	omissions of structural elements including word endings; uses only simple active, declarative sentences; word order difficulties in question formations				includes all structural elements; mature sentence patterns, maintains constant tense reference within a paragraph or story; mature use of phrases and clauses and conjunctions
Articulation	child is difficult to understand due to speech sound errors; speech draws attention to itself				all speech sounds are produced appropriately
Voice	distracts listener from meaning of the message, denasal or nasal quality; frequent loss of voice; recurrent hoarseness				voice is pleasing to the listener, does not draw attention to itself
Fluency	frequently repeats parts of words and whole words, demonstrates long periods of silence while attempting speech, demonstrates struggle behavior				speaks smoothly
Nonverbal communication	rarely looks at person's face; facial expression conflicts with words; gestures distract; child stands too near or far; touches other person too much; hand or leg movements distract; misinterprets other's nonverbal communication				facial expression and gestures support words; looks at person's face; movements or proximity do not distract

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COMMUNICATION COMPETENCY SCREENING

SCHOOL: _____ GRADE: _____

TEACHER: _____ INSERVICE DATES: _____

CLINICIAN: _____ SCREENING DATES: _____

STUDENT	No Problem	Skill in Communication	Organization, Purpose & Control	Wealth of Ideas; Amount of Language	Vocabulary	Nonverbal Communication	Quality of Listening	Quality of Sentence Structure	Articulation	Voice	Fluency	COMMENTS

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Oral Expression and Listening Comprehension Checklist

Student: _____ Date: _____

Person Completing Checklist: _____ Title: _____

Please complete the following checklist based on your observations of this student. These characteristics are designed to focus your attention on relevant behaviors; they are not necessarily "symptoms" of a learning disability.

Does this student:	Yes	Sometimes	No	Not Observed
1. have difficulty participating in a conversation?				
2. frequently interrupt the speaker instead of waiting for a conversational turn?				
3. make rapid and inappropriate changes in the conversational topic?				
4. fail to convey information in an organized, related, integrated manner?				
5. use a limited, nonspecific vocabulary (e.g., thing, junk, stuff)?				
6. have difficulty finding specific words to convey thoughts?				
7. use excessive pauses and repetitions (e.g., "uhm, he said, uhm he said that, uh"...)?				
8. use false starters (e.g., and, then, well) to begin sentences and keep revising what he or she has said?				
9. frequently respond to questions and comments inappropriately (Teacher: "What is a hospital?" Student: "Down the street.")?				
10. have difficulty understanding and using multiple-meaning words (e.g., "glasses" can be used for both seeing and drinking; "ring" can be worn and heard)?				
11. have difficulty understanding and using antonym and synonym relationships?				
12. have difficulty with location words such as "in, on, under, beside, in front of"?				
13. have difficulty understanding and completing analogies (e.g., day is to light as night is to dark)?				
14. have difficulty understanding and explaining idioms (e.g., "Not my cup of tea" or "Heart of gold")?				
15. have the ability to tell the similarities and differences between objects?				

Does this student:	Yes	Sometimes	No	Not Observed
16. have the ability to detect humor in a story or statement?				
17. use inaccurate pronouns in regard to gender (e.g., "he" for "she") and case (e.g. "her" for "she")?				
18. use ambiguous pronouns without identifying the referent? (e.g., "He had his friend ask him for his homework so he could copy his answers.")				
19. produce grammatical errors by leaving off word endings and/or reversing word order (e.g., "What her say?" or "He walk home yesterday")?				
20. lack consistency in using subject-verb agreement (e.g., "They is hungry." or "He jump.")?				
21. have difficulty asking questions?				
22. fail to follow directions given orally?				
23. have difficulty remembering or recalling details from spoken messages?				
24. respond significantly slowly to questions or statements made by adults or peers?				
25. remain confused even after several repetitions of statements or explanations have been given?				

JORDAN SCHOOL DISTRICT

SPEECH, LANGUAGE, AND HEARING SERVICES

Each school in the District has the services of a speech-language pathologist. In September, every kindergarten child is given a hearing test, and parents are notified of the results. Any indicated problems are followed up by the District audiologists.

Children with speech or language problems may be referred to their school speech-language pathologist from any source; parent, teacher, etc. Here are some questions for you to answer concerning your child's speech and language skills. Kindergarten children should have the abilities outlined in these questions.

1. Can your child use language to relate a story or an experience?

2. Can your child follow a sequence of simple directions? (For example, go to your room, get your red shirt and bring it to me.)

3. Does your child understand basic concepts such as over, under, between, or around?

4. Is your child able to understand "yesterday, summer, tonight, or lunch time?"

5. Can a stranger understand about 90% of what your child says? (In kindergarten, children may still be learning the "th," "r," "s," "l" sounds, and it may be normal to hear "I thaw da wabbit," instead of "I saw the rabbit.")

6. Can your child speak smoothly without excessive repetitions or revisions? (If you feel his/her speech is extremely broken up by repetitions contact the speech-language pathologist.)

7. Does your child's voice always sound hoarse? Does he/she speak as though he/she always has a cold?

Kindergarten age students should be using complex sentences that are grammatically correct. His/her expression may not be complex, but it should not contain omissions such as "Dog barking at girl" or substitutions such as "Him jump on sidewalk."

If you are concerned about your child's speech or language skills, please call the speech-language pathologist at your school.

GUIDELINES FOR MAKING APPROPRIATE REFERRALS TO THE SPEECH LANGUAGE CLINICIAN

Teacher _____ School _____ Grade_____

Refer a child to the Speech-Language Clinician by writing his/her name on the lines provided if one or more of the following behaviors severely impairs communicative functioning:

Oral Language Dysfunction

1. Is the child's sentence structure and vocabulary different and/or more simple than his classmates?
2. Does the child have difficulty organizing thoughts and presenting them verbally, e.g., telling an experience?
3. Does the child frequently use gestures rather than speaking his needs?

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Stuttering (Dysfluency)

1. Does the child repeat sounds or syllables or words more often than his classmates?
2. Does the child demonstrate an emotional reaction to his dysfluency?
3. Does the child exhibit physical tension in attempting to speak?

_____ _____

_____ _____

Voice

1. Is the child's voice hoarse
2. Is the child's voice breathy?
3. Is the child's voice nasal?
4. Does the child sound like he has persistent nasal congestion (denasality)?
5. Is the child's voice monotone?

_____ _____

_____ _____

Articulation

1. Is the child's speech difficult to understand?
2. Beyond kindergarten age, does the child have difficulty with specific sounds?

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Auditory Language Problems

1. Is the child inattentive, distractible, or irritable toward others?
2. Does the child respond inconsistently or inappropriately?
3. Does the child follow directions?
4. Does the child have a short memory span?
5. Is the child unable to discriminate sounds?

Preassessment Classroom Performance Data -- General Checklist*

Student: _____ Date: _____

Teacher: _____ Grade: _____

Please observe _____ in your class and answer the following questions. Your observations will help to determine if this child's communication problem is affecting his/her educational performance. Thank you.

		Yes	No
1.	Does this student avoid speaking in class?	___	___
2.	If this student is young, does he/she communicate with a lot of gestures instead of speech?	___	___
3.	Does this student seem frustrated when trying to speak?	___	___
4.	Does this student speak in complete sentences?	___	___
5.	Do peers tease this student about his/her communication problem?	___	___
6.	Is this student's auditory discrimination adequate for sounds and words?	___	___
7.	If this student's problem is articulation, does he/she correct any of the errors himself/herself?	___	___
8.	If the student's problem is articulation, does he make errors in writing on the same symbols that he makes errors on in articulation? (example: spelling)	___	___
9.	If the student's problem is articulation, do most of his/her mispronunciations during oral reading occur on the articulation error sounds?	___	___
10.	If the student has an articulation problem, is his/her intelligibility reduced to the extent that you find it difficult to understand what he/she says?	___	___
11.	Is this student's grammar (syntax) adequate for his/her age?	___	___
12.	Are the student's average sentences short (4 words or less)?	___	___
13.	Does this student appear to be an underachiever?	___	___
14.	Do you feel comfortable when you try to communicate with this student?	___	___
15.	Does this student's voice quality make it difficult to understand the content of his/her verbal message?	___	___
16.	Does this student lose his/her voice during or by the end of the day?	___	___
17.	Is this student able to project loud enough to be adequately heard in the classroom during recitation?	___	___
18.	Does the student have difficulty with the fluency (hesitation or prolongations) of his/her speech?	___	___
19.	If the student has fluency problems, does this make it difficult for you to understand what he/she is saying?	___	___
20.	Does this student appear to always place one specific ear toward the teacher or other source of sound?	___	___
21.	Does this student appear to have more difficulty in understanding material that is presented through the auditory channel than through the visual channel?	___	___

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		Yes	No
22.	Does this student have trouble spelling words that are dictated to him/her?	___	___
23.	Does this student leave out words when asked to repeat a number of words or sentences?	___	___
24.	Does this student appear to concentrate on the speaker's lips when listening?	___	___
25.	Is this student aware of his/her communication problem?	___	___

26. Are there any other observations relating to communication skills that you would like to comment on regarding this student?

_____

_____

_____

27. What strategies have you tried to correct the problem? How long? (number of days - weeks)

_____

_____

_____

_____
Classroom Teacher Signature

*This checklist may be adapted to meet districts' needs. Additional questions may be added or deleted.

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SPEECH, LANGUAGE, HEARING SERVICES

Failed Classroom Interventions for Speech-Language Problems

A. Parent Conference _____
with suggestions -- Home Intervention

B. Parent/Student Conference _____

C. Peer Tutoring _____

D. Modeling for Speech-Language Problem _____

E. Direct Teaching with Suggestions by S.L.P. _____

F. Other Programs (Special Education, Chapter I, etc.) _____

G. School Curriculum has Failed to Correct Problem (Reading Program, etc.)
_____

H. Reinforcement Techniques _____

I. Techniques, Materials Provided by S.L.P. have not Helped _____

J. Periodic Testing Indicates Stable Problem _____

_____
Teacher's Signature

_____
Date

_____
School Year

Salt Lake District

Speech-Language Pre-referral Documentation

Directions:
Circle the letter of the intervention you used. Indicate the date you started and the date you ended the intervention. Each intervention must be tried for a 1-2 week period.

Classroom Intervention	Dates	Results
a. Parent conference with parent suggestions - home intervention program		
b. Teacher modeling correct responses		
c. Followed specific teaching suggestions given by S.L.P.		
d. Auditory training (Listening Activities)		
e. Peer tutoring		
f. Adjusting academic variables (rewording directions; rephrase questions; drill vocabulary)		
g.		
h.		

Teacher Signature

Date

Preassessment Language and Auditory Perceptual Checklist*

Student: _____ Date: _____

Teacher: _____ Grade: _____

Please fill out this form and return it to the Speech-Language Pathologist. Your observations will help determine if this child's communication problem is affecting his/her educational performance. Thank you.

		Yes	No
1.	Is this student aware of his/her communication problem?	___	___
2.	Does this student speak in complete sentences?	___	___
3.	Is this student's grammar (syntax) adequate for the age?	___	___
4.	Are the student's average sentences short (4 words or less)?	___	___
5.	Does the student confuse words having similar sounds (Thread-Fred)?	___	___
6.	Is this student's vocabulary limited for the age?	___	___
7.	Is this student a poor reader?	___	___
8.	If this student makes oral reading substitution errors, are they of the grammatical (syntactic) type?	___	___
9.	Is this student usually able to follow your oral directions?	___	___
10.	Does this student usually need oral directions repeated?	___	___
11.	Does this student have difficulty learning even when things are repeated many times?	___	___
12.	Is this student able to listen to a story and interpret the meaning?	___	___
13.	Does this student demonstrate effective listening skills?	___	___
14.	Does this student have trouble blending sounds together to form a word?	___	___
15.	Does this student have a poor auditory memory for numbers, sounds, connected speech or stories?	___	___
16.	Does this student have difficulty remembering general information?	___	___
17.	Does this student appear to focus on only part of what is said, and therefore sometimes misinterpret information?	___	___
18.	Is this student aware of his/her communication problem?	___	___
19.	Do peers tease this student about his/her communication problem?	___	___
20.	Do you feel comfortable when you try to communicate with this student?	___	___
21.	Is this student easily distracted by extraneous noises in the classroom, next door, outside?	___	___
22.	Does this student have any fluency (hesitations, prolongations or repetitions) problems of his/her speech?	___	___
23.	Does this student appear to have poor word attack skills?	___	___
24.	Does this student have trouble in learning skills and concepts that are only presented visually (reading)?	___	___
25.	Does this student have trouble in learning skills and concepts that are presented when both auditory and visual stimuli are given?	___	___
26.	Does this student have trouble in finding or understanding the humor in funny stories?	___	___
27.	Does this student have difficulty in completing simple sentences or story endings (orally)?	___	___

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	Yes	No
28. Do you have any other observations relating to communication/ language skills for this student?	___	___

29. What strategies have you tried in order to correct the problem? How long? (number of days - weeks)

_____

_____

_____
Classroom Teacher Signature

*This checklist may be adapted to meet districts' needs. Additional questions may be added or deleted.

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Preassessment Pragmatics Checklist*

Student: _____ Date: _____

Teacher: _____ Grade: _____

Please fill out this form and return it to the Speech-Language Pathologist. Your observations will help determine if this child's communication problem is affecting his/her educational performance. Thank you.

		Yes	No
1.	Does this student pause for 2 seconds or more before responding to a question or other verbal stimulus?	___	___
2.	Does this student use non specific pronouns like "it," "this" and "stuff" when the listener has no way of knowing to what the child is referring?	___	___
3.	Does this student have a problem maintaining the topic of conversation or switch topics so quickly that the listener gets lost?	___	___
4.	Does this student pick a topic of conversation which is inappropriate for the situation or the listeners?	___	___
5.	Does this student have a problem "taking turns" during conversation?	___	___
6.	Is this student's speech disrupted by repetitions, unusual pauses and other hesitation phenomena?	___	___
7.	Does this student make many false starts as he/she speaks, then interrupt him/herself and start over?	___	___
8.	As this student talks do you notice that he/she stands an inappropriate distance (either too near or too far) from the speaker?	___	___
9.	Does this student lack appropriate eye contact when speaking and/or listening?	___	___
10.	Does this student lack the ability to ask questions when he/she did not understand what was being said?	___	___
11.	Does this student lack the ability to repair or fix an utterance when he/she has been misunderstood?	___	___
12.	Does this student seem to talk too long (quantity) on a topic?	___	___
13.	Is this student hesitant to initiate speech?	___	___
14.	Is this student using a limited variety of speech acts such as asking questions, giving directions, denying and making statements?	___	___

15. What strategies have you tried in order to correct the problem? How long? (number of days - weeks)

_____

_____

_____
Classroom Teacher Signature

*This checklist may be adapted to meet districts' needs. Additional questions may be added or deleted.

Preassessment Auditory Skills Checklist*

Student: _____ Date: _____

Teacher: _____ Grade: _____

Please fill out this form and return it to the Speech-Language Pathologist. Your observations will help determine if this child's communication problem is affecting his/her educational performance. Thank you.

		Yes	No
1.	How would you rate this child's general performance in your class? (Please check one): Above Average _____ Average _____ Below Average _____		
2.	Does he/she seem to pay attention better in the morning than in the afternoon?	___	___
3.	Does he/she seem to watch your face and lips a lot?	___	___
4.	Does he/she seem to have more difficulty working when the class is noisy compared to when the class is fairly quiet?	___	___
5.	Does he/she often ask you to repeat directions?	___	___
6.	Do you often see him/her asking another child what the assignment is or how to do an assignment?	___	___
7.	Please rate the following skills on a continuum from 1 through 4 (Circle one) EXCELLENT -- 1; GOOD -- 2; FAIR -- 3, POOR -- 4		
	How well does he/she follow directions? 1 2 3 4		
	Does he/she keep his/her place in a book while reading, etc? 1 2 3 4		
	How is his/her attention span for an average day's length? 1 2 3 4		
	Does he/she join in classroom discussions? 1 2 3 4		
	Does he/she volunteer to answer questions in your class? 1 2 3 4		
8.	What strategies have you tried in order to correct the problem? How long? (number of days - weeks) _____ _____		

_____
Classroom Teacher Signature

*This checklist may be adapted to meet districts' needs. Additional questions may be added or deleted.

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Preassessment Articulation Checklist*

Student: _____ Date: _____

Teacher: _____ Grade: _____

Please fill out this form and return it to the Speech-Language Pathologist. Your observations will help determine if this child's communication problem is affecting his/her educational performance. Thank you.

		Yes	No
1.	If this student is older (4th grade and up) are his/her language comprehension skills below average?	___	___
2.	Does this student use shorter sentences than the other students in your class?	___	___
3.	Does this student have problems with grammar usage?	___	___
4.	Does this student have a lot of pronunciation/enunciation errors?	___	___
5.	Does this student make errors in writing (spelling) on the same sound symbols that he makes the verbal errors on in articulation?	___	___
6.	Is this student's intelligibility reduced (due to articulation errors) to the extent that you find it difficult to understand what he/she says at times?	___	___
7.	Does this student appear to avoid speaking in class?	___	___
8.	Are this student's reading skills poor?	___	___
9.	Does this student read well (verbally)?	___	___
10.	Is this student's oral reading rate slow?	___	___
11.	Do most of this student's mispronunciations during reading occur on the articulation error sounds?	___	___
12.	Is this student better in silent reading than in oral reading?	___	___
13.	Does this student confuse words having similar sounds (Thread-Fred)?	___	___
14.	Do you ever hear this student correct his articulation errors by himself/herself?	___	___
15.	Is this student aware of his/her communication problem?	___	___
16.	Does this student appear to be a social isolate?	___	___
17.	Does this student's speech problem distract you sometimes from *what* he/she is saying?	___	___
18.	What strategies have you tried in order to correct the problem? How long? (number of days - weeks)		

_____

_____

_____

_____

Classroom Teacher Signature

*This checklist may be adapted to meet districts' needs. Additional questions may be added or deleted.

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Preassessment Voice Checklist*

Student: _____ Date: _____

Teacher: _____ Grade: _____

Please fill out this form and return it to the Speech-Language Pathologist. Your observations will help determine if this child's communication problem is affecting his/her educational performance. Thank you.

		Yes	No
1.	Is this student able to project loudly enough to be adequately heard in your classroom during recitations?	___	___
2.	Does this student avoid reading out loud in class?	___	___
3.	Does this student appear generally to avoid talking in your classroom?	___	___
4.	Does this student ever lose his/her voice by the end of or during the school day? If so, when? _____	___	___
5.	Does this student use an unusually loud voice or shout a great deal?	___	___
6.	Does this student engage in an excessive amount of throat clearing or coughing? If so, which? _____	___	___
7.	Is this student's voice quality worse during any particular time of the day? If so, when? _____	___	___
8.	Does this student's voice quality make it difficult to understand the content of his/her speech?	___	___
9.	Does this student's voice quality distract you from *what* he/she is saying?	___	___
10.	Has this student ever mentioned to you that he/she has a voice problem?	___	___
11.	Have this student's parents ever talked to you about this student's voice?	___	___
12.	Have you ever heard any of his/her peers mention that this student's voice sounds funny?	___	___
13.	Do other students make fun of this student because of his/her voice problem?	___	___
14.	If this student has a pitch problem (too low or too high), does the pitch make it difficult to identify him/her as male or female just by listening?	___	___
15.	During speaking, does this student's voice break up or down in pitch to the extent that he/she appears to be embarrassed by this?	___	___
16.	What strategies have you tried in order to correct the problem? How long? (number of days - weeks) _____ _____		

_____
Classroom Teacher Signature

*This checklist may be adapted to meet districts' needs. Additional questions may be added or deleted.

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Pre-Referral Action Plan

Student's Name: _____

Teacher's Name: _____

Grade Level: _____

School: _____

---

1. Goal Statement: What do you want the student to do?

2. Implementation Procedures: How will you help the student accomplish the above goal?

3. Date Implementation Procedures Will Begin: _____

4. Measurement: How will you know if it worked?

5. Follow Up:
   How long did you implement the above procedures? _____

   What happened?

6. Does the child confuse or have difficulty finding words (s)he needs?

7. Does the child have phonics, reading, or spelling problems?

_____ _____

_____ _____

_____ _____

_____ _____

Documentation of Classroom Strategies

Student _____ Teacher _____

Used Adaptive Equip. Date Action Results	Changed Curric. Content Date Action Results	Changed Tchr. Instr. Date Action Results	Changed Instrl. Matrls Date Action Results
Changed Instrl. Method Date Action Results	Changed Instrl. Pace Date Action Results	Changed Schedule Date Action Results	Changed Seating Date Action Results
Utilized Suppl. Matrls. Date Action Results	Implemented Contracts Date Action Results	Indiv. Homewk. Assigns. Date Action Results	Pursued Medical Inter. Date Action Results:
Utilized Neg. Conseq. Date Action Results	Utilized Pos. Reinforc. Date Action Results	Used Comptr. Asst. Inst. Date Action Results	Provided Dir. Teaching Date: Action Results:

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Ref. to Fam. Ed. Ctr. Date Action Results	Modeled Desired Behav Date: Action: Results:	Conf with Parents Date Action Results	Provided Drill & Prac Date Action Results
Counseled w/ Student Date: Action: Results:	Provided Peer Tutoring Date: Action: Results:	Implmt. Class Disc. Pln. Date: Action: Results	Umplmt. Home Prgm Date: Action: Results
Other: _____ Date Action: Results:	Other: _____ Date: Action: Results:	Other: _____ Date: Action: Results:	Other: _____ Date: Action: Results:

Documentation of Classroom Strategies

Student _____ Teacher_____

Used Adaptive Equip. Date Action Results:	Changed Curric. Content Date Action Results	Changed Tchr./Instr. Date Action Results	Changed Instrl. Matrls Date Action Results
Changed Instrl. Method Date Action Results:	Changed Instrl. Pace Date Action Results	Changed Schedule Date: Action Results:	Changed Seating Date: Action: Results:
Utilized Suppl. Matrls. Date Action Results:	Implemented Contracts Date Action Results:	Indiv. Homewk. Assigns. Date: Action: Results:	Pursued Medical Inter Date: Action: Results:
Utilized Neg. Conseq. Date Action Results:	Utilized Pos. Reinforc. Date Action Results	Used Comptr. Asst. Inst. Date: Action: Results:	Provided Dir. Teaching Date: Action: Results:

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Ref. to Fam. Ed. Ctr. Date Action Results:	Modeled Desired Behav. Date: Action: Results:	Conf. with Parents Date Action Results:	Provided Drill & Prac Date Action Results:
Counseled w/ Student Date: Action: Results:	Provided Peer Tutoring Date: Action: Results:	Implmt. Class Disc. Pln. Date: Action: Results:	Umplmt. Home Prgm Date: Action: Results:
Other: _____ Date: Action: Results:	Other: _____ Date: Action: Results:	Other: _____ Date: Action: Results:	Other: _____ Date: Action: Results:

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APPENDIX D
Information on ESL Students

THE HANDICAPPED, LIMITED-ENGLISH-PROFICIENT STUDENT: A SCHOOL DISTRICT'S OBLIGATION

by

Peter D. Roos

National Origin Desegregation Assistance Center

Coral Gables, Florida

Question 1: What laws should one refer to in order to determine a Local Educational Authority's (LEA) obligation to handicapped limited-English-proficient (LEP) children?

Answer: As a general rule, federal law is supreme and thus has priority over conflicting or less protective state law. Under this rule, state law which is as protective of the rights of handicapped LEP students, and which is more detailed in spelling out obligations which are left general by federal law should be the guiding force. If state law is silent or less protective, reference must be had to the general principles of federal law which will be set forth below.

The relevant federal laws and regulations which will be discussed are:

(a) The Education of the Handicapped Act (The "Act") (P.L. 94-142) which is codified at 20 USC 1400 et seq.;

(b) The Administrative Regulations of the Act which are found at 34 CFR 300 et seq.;

(c) The Civil Rights Law commonly referred to as "504" which is codified at 29 USC 794;

(d) The 504 Regulations, found at 34 CFR 104 et seq.;

(e) Title VI of the 1964 Civil Rights Act, found at 42 USC 2000 (d);

(f) The Equal Educational Act of 1974 codified at 20 USC

1703 (f).

Each of the above acts and regulations should be available at a good public library and will definitely be available at most law libraries.

Question 2: How do all the above-listed authorities relate to each other?

Answer: As will be seen, P.L. 94-142 and its regulations provide the primary authority for issues of identification, evaluation, child-find, and parental rights. This is because Congress and the Department of Education (ED) have quite specifically spelled out the obligations of LEAs.

To define a Free Appropriate Public Education (FAPE), one must also refer to laws specifically designed to protect national origin minority children who are LEPs--irrespective of their handicapping condition. Primary reference thus should be to those acts (Title VII and 20 USC 1703 (f), as interpreted, to give meaning to the FAPE requirement.

Question 3: Must an LEA take special steps to locate handicapped LEP students as part of its "child-find" obligation?

Answer: Yes. Both P.L. 94-142 and the 504 Regulations mandate affirmative steps to "identify and locate" "all (handicapped) children". 20 USC 1414 (a) (1) (A); see also 34 CFR 104.32 (a) which mandates an LEA to "identify and locate every quaiified handicapped person. . .who is not receiving a public education."

This obligation could not be met in any jurisdiction with a significant population of LEP students, unless activities (door-to-door canvassing, radio, newspapers, etc.) were undertaken in the predominant languages of the district. This principal has been affirmed in the one jurisdiction in which a court has addressed it. Jose P. v. Ambach, 3 EHLR 551 415 (E.D.N.Y., 1979).

Question 4: Must tests and evaluations of students for the purpose of placement be conducted in the students' primary language?

Answer: Yes, unless clearly not feasible. (P.L. 94-142 is unambiguous on this point.) A state must establish (C) procedures to assure that testing and evaluation materials and procedures utilized for the purposes of evaluation and placement of handicapped children will be selected and administered so as not to be racially or culturally discriminatory. Such materials or procedures shall be provided and administered in the child's native language or mode of communication, unless it clearly is not feasible to do so, and no single procedure shall be the sole criterion for determining an appropriate educational program for a child." (emphasis added.) 20 USC 1412 (5) (c).

The regulations made clear that this obligation to provide and administer evaluation materials and procedures in the child's native language is an obligation of both "State and local educational agencies." 34 CFR 300.532.

Given the extraordinarily strong language of this mandate and the manifest importance of native language evaluation to appropriate placement and evaluation, it is clear that a school district has a very heavy burden to establish lack of feasibility. Testing and evaluation should be by someone trained in assessment of linguistically and culturally different students, and who is fluent in the child's language.

Question 5: Should placement teams include persons who are fluent in the child's language?

Answer: The emphasis of the law is on the inclusion of a variety of persons who are skilled in interpreting the meanings of the evaluations; in addition, the regulations specifically mandate that "social and cultural" background be evaluated. 34 CFR 300.533 (a) (1).

While proficiency in the child's language is not an express requirement at this stage, it seems clear that the law and regulations contemplate inclusion of the person or persons who conducted the evaluations of the student. By the terms of the previous answer this person or persons must be fluent in the child's language. Further, the impact of the child's social and cultural background must be addressed by someone with expertise in relating that background to the decision to be made. Finally as reflected in the next question, a parent must be a knowledgeable participant in the decision--a standard that expressly cannot be met without a native language interpreter.

Question 6: What steps must be taken at the evaluation and placement stage to address the language needs of non-English-speaking parents?

Answer: Parents are entitled to notice prior to evaluation or to any planned change in placement or decision not to change a placement. 20 USC 1415 (b) (C); in addition, actual "consent" must be received from a parent before a preplacement evaluation or initial placement. 34 CFR 300.504 (b) (c) (cc). By the express terms of the act and regulations, each of these activities must be altered to meet the needs of parents who are not fluent in English.

Notice of any planned evaluation or change of placement (or decision not to change placement) must "fully inform the parents or guardian, in the parents' or guardian's native language, unless it clearly is not feasible to do so, of all procedures available pursuant to this section." 20 USC 1415 (b) (1) (D).

Further, before a "consent" to a pre-placement evaluation or initial special education placement can be given, "the parent (must be) fully informed of all information relevant to the activity for which consent is sought in his or her native language." 34 CFR 300.500 (a).

Question 7: What accomodation must be made at the IEP meeting for the non-English-speaking parent?

Answer: The P.L. 94-142 regulations require that a school district "take whatever action is necessary to insure that the parent understand the proceedings at a meeting, including arranging for an interpreter for parents who are deaf or whose native language is other than English." 34 CFR 300.345 (e).

Thus by the terms of this regulation, at a minimum, an interpreter must be made available to the parent. While translations of the IEP and other documents are not expressly mandated, it seems clear that the translator must be sufficiently knowledgeable about the substantive materials, evaluations, and proposed IEP to be able to convey their importance to the parent. This is necessary so that the parent can meaningfully give the input envisioned, or, ultimately, determine whether to invoke alternative procedural safeguards.

Question 8: Must the program offered to the student be altered to address the fact that he is limited-English-proficient?

Answer: Absolutely, students do not lose their rights to protection under other civil rights laws merely because they are handicapped. Thus, those rights held by a LEP student under Title VI of the 1964 Civil Rights Act (42 USC 2000 (d)) and under the 1973 Equal Education Amendments (20 USC 1703 (f)) must be honored.

The obligations of a school district under 1703 (f) are to:

1. Develop a pedagogically sound program that addresses the child's English language needs;

2. Assure that student's substantive educational progress is not hindered by their English language deficit and that the program is designed to assure that they ultimately bear no educational scars as a result of their lack of English language skills;

3. Provide all resources to assure success in the first two endeavors;

4. Assess the child regularly to substantiate the wisdom of the approach taken in the first two steps;

5. To alter the program in a pedagogically sound manner

if the assessment reflects a lack of success.

These principles derive from a court construction of 1703 (f); see Casteneda v. Pickard, 648 F. 2d 989 (5th Cir., 1981).

These principles argue in favor of the use of a bilingual approach, whenever possible, although the Court expressly said that for non-handicapped children, such was not compelled. One court has adopted a bilingual approach for handicapped students. United Cerebral Palsy of N.Y. v. Board of Education, 79 C. 560 (Feb. 27, 1980). Certainly the legal and educational arguments for a bilingual approach are greater for certain handicapped stucents than for non-handicapped. Retarded LEP children, for example, would seem to have a compelling legal case for bilingual instruction, given their mental limitations. Students with most other handicaps would also have a more compelling case for bilingual instruction than could be made for their non-handicapped peers.

Realistically it might be difficult, if not impossible, to find fully certified bilingual special education personnel for each language and disability in a school system. In such a case bilingual aides would seem to be compelled as well as a training program for the staff to assure that the IEP meets the above standards and can be effectively implemented. These standards must be woven into the IEP for the handicapped LEP child.

(Permission to reprint granted by the publisher.)

Spanish Influence Characteristics

The following are some of the language usage and pronunciation forms which may be commonly noted in the speech of the Mexican-American or other Spanish/English speaking student:

Usage:

1. Use of the double negative. *I don't see nobody.*
2. Use of the double comparison. *My brother is more, taller.*
3. Double marking of the past tense on past participle (irregular form). *He should have went.*
4. Consistent uniflected use of the third person singular, present tense (irregular form). *He come to school late.*
5. Use of the double subject. *My father he is home.*
6. Addition of regular /-s/ or /-z/ to irregular possessive forms. *He took mines and his.*
7. Addition of a regular /-s/, /-z/ or /-ez/ ending to irregular plural forms. *The mens came to work on time.*

Pronunciation:

1. Over-pronunciation. *talk-ed, jumpt-ed, lis-ten, sof-ten.*
2. Un-pronounced final endings. *jumpin', firs', mos'.*
3. Shifted syllable accent. *perfec'ly, pos'office.*
4. Articulatory changes as represented by the following examples:

   a. *mees for miss*
   b. *brauther for brother*
   c. *share for chair*
   d. *rread for read*
   e. *Espanish for Spanish*
   f. *berry for very*
   g. *rice for rise*
   h. *cahp for cap*

5. Omission or "softening" of tongue-tip sounds (t, d, th) in the medial position. *Too pick, kin ly.*
6. The use of words which are a combination of English and Spanish but, as used, are not true words of either language. *Marketa, watcho, pushar, carro.*

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Some Phonological Features of Black English*

Consonant cluster reduction

TABLE 1. Consonant clusters in which the final member of the cluster may be absent. Where there are no examples under Type I or II, the cluster does not occur under that category.

Phonetic Cluster	Examples: Type I	Examples: Type II
(st)	test, post, list	missed, messed, dressed
(sp)	wasp, clasp, grasp	--
(sk)	desk, risk, mask	--
(t)	--	finished, latched, cashed
(zd)	--	raised, composed, amazed
(zd)	--	judged, charged, forged
(ft)	left, craft, cleft	laughed, stuffed, roughed
(vd)	--	loved, lived, moved
(nd)	mind, find, mound	rained, fanned, canned
(md)	--	named, foamed, rammed
(ld)	cold, wild, old	called, smelled, killed
(pt)	apt, adept, inept	mapped, stopped, clapped
(kt)	act, contact, expect	looked, cooked, cracked

The th-sounds

1. Word initial: d/th; t/th
2. Within a word: f/th; v/th; followed by nasal is produced as /t/.
3. Word final: f/th predominant production.

The /r/ and /l/

1. After a vowel /l/ becomes /ə/; Preceding a consonant /r/ and /l/ are absent.
2. Between vowels /r/ and /l/ may be absent.
3. After initial consonants /r/ may be absent.

Final /b/, /d/ and /g/

1. Devoiced at the end of syllables.
2. Deletion of /d/ in some instances when followed by a consonant.

Nasalization

1. The use of -in for the -ing suffix.
2. Use of nasalized vowel instead of nasal consonant at the end of syllables.
3. Before a nasal consonant /I/ and /e/ do not contrast (as in other dialectal varieties of standard English).

Vowel glides

1. The vowel glides as in /el/ are generally pronounced as /a/ (also found in standard varieties of Southern speech).

(*These features are not necessarily typical of all black students, however, they will be present in some segments of black culture.)

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(zd)	--	judged, charged, forged
(ft)	left, craft, cleft	laughed, stuffed, roughed
(vd)	--	loved, lived, moved
(nd)	mind, find, mound	rained, fanned, canned
(md)	--	named, foamed, rammed
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1. Word initial: d/th; t/th
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Primary Language Questionnaire

Name: _____ Date: _____

School: _____ Grade: _____

Native Language: _____ Age: _____

Check appropriate answer - qualify responses if necessary	Native Language	English	Both
1. What language is spoken in your home?	_____	_____	_____
2. What language do you speak at home?	_____	_____	_____
3. When you are playing with your brothers, sisters, and friends at home, do you speak English or your native language?	_____	_____	_____
4. What language do you speak on the playground with your friends?	_____	_____	_____
5. What language do you speak in class?	_____	_____	_____
6. When your teacher asks you a question, do you answer in English or in your native language?	_____	_____	_____
7. Can you understand your teacher when she/he speaks in English?	Yes ( )	No ( )	
8. What language do you speak most often?	_____	_____	_____
9. What language do you speak best?	_____	_____	_____
10. If you had a choice, would you rather speak English or your native language?	_____	_____	_____
Total Checks:	_____	_____	_____

Primary Language Assessment Results:

_____ Speaks native language exclusively, almost no English skills

_____ Native language is dominant language, limited English skills

_____ Bilingual native language/English

_____ English is dominant, limited native language skills

_____ Speaks English exclusively, almost no native language skills

APPENDIX E
Evaluation

Considerations in Testing
Published Tests
Informal Measures
Bell Curve

CONSIDERATIONS IN TESTING

No single test or procedure is to be used as the sole criterion for classifying or determining an appropriate treatment program of a child with a communication disorder (SBE/SER, Appendix A-2, A-3). A variety of appropriate assessment procedures should be selected to diagnose communication disorders in children. These procedures can include behavior observations in selected environments, normative tests, nonstandardized assessments and informal measures of present levels of functioning (criterion referenced tests). For an example of evaluation procedures for a child with an articulation disorder, see SBE Rules A-2.

A. **Test Selection**—In selecting assessment procedures, the SLP should consider the rationale underlying test selection. The SLP should be aware of:

1. How comprehensively the selected test evaluates the area it purports to test, and

2. The appropriateness of the test for a given child.

B. **Test Design**—Tests are generally designed to accomplish one or both of the following:

1. Ranking of individual performance (Normative tests)

2. Identifying strengths and weaknesses of performanace (Non-standardized assessment)

C. **Normative Tests (Norm referenced)**—The purpose of using normative tests is to determine the relative rankings of children who take the test. The score of a given child is compared with the scores of others who have taken the test. Norm-referenced tests are typically used to make decisions about whether or not the child has a speech or language impairment.

1. Measurement Issues—In selecting which normative tests to administer, the SLP should consider several measurement issues which influence the confidence that the SLP can have in the test's ability to rank a child's performance relative to others who have taken the test. These issues include: reliability, validity, standardization population, and type of norm based score.

   a. Reliability: The reliability of a test indicates the amount of confidence the examiner can have in the child's test score. Reliability is a measure of the consistency of test results i.e.

stability and repeatability. If the child's performance is dependent on his or her knowledge of the test material, reliability should be high. The SLP can have most confidence in the reliability of tests which have high reliability coefficients reported in the test manual. Reliability is a prerequisite to validity. Several kinds of reliability may be reported in a test manual. An acceptable test must report at least one or two kinds of reliability at a level of 85% or above. Kinds of reliability include:

1) Interexaminer reliability: The consistency of scores when the test is administered by more than one examiner.

2) Test-retest reliability: The stability of test scores when the test is administered to the same children twice within a short period of time.

3) Equivalent (Alternate) Form reliability: Scores derived from two versions of the same test are comparable.

4) Internal Consistency reliability: The scores on one half of the test's items are comparable to scores on the other half (split-half or odd-even) of the test's items. Reliability should be high if all items are testing the same general ability.

b. Validity: Validity is the degree to which a test is both relevant and reliable. Validity measures may or may not be of significance to the SLP, depending on the type of validity that is reported by the test authors. Predictive or content test validity, though rarely demonstrated, are probably the most meaningful for making decisions. Validity can be described in a number of way:

1) Concurrent Validity: Two different tests yield highly similar results when administered to the same group of students.

2) Predictive Validity: The test shows a correlation between test scores and age; the test identifies those children who have a disorder in the test area from normally developing children; and the test scores are correlated with severity of the problem.

3) Content Validity: The test measures what it purports to measure.

4) Construct Validity: Part of relevance.

c. Usability: To be useful for evaluation, a test must be both valid and usable. Usability refers to whether or not the measurement instrument wastes time and money or if it interferes with the well being of those being tested. Such areas as cost, time, strain on the child and ease of administration should be considered in choosing a test.

d. Standardized Population: The SLP should consider the particular characteristics and size of the population on which the test was standardized.

1) The characteristics of the standardized population which should be similar to the child being tested include such areas as:

a) age
b) sex
c) socio-economic status
d) ethnicity
e) setting

2) The size of the test's standardized population at each age/grade level should be considered. Ideally, the test should have been standardized on at least 100 children at each age/grade level.

e. Type of Norm Based Score Reported: The type of score available from the normative test should also be considered when choosing a test instrument. There are two types of scores which may be available for ranking children. These include:

1) Relative ranking score: This score compares a child to other children of the same age, with the score indicating how the child ranks relative to peers. There are three types of relative ranking scores:

a) Standard score: This type of score is derived by assigning the mean a number, such as 100, and a constant value to indicate one standard deviation. This procedure makes it possible to compare groups with different means and degrees of variability to each other. T-scores and Z-scores are types of standard scores.

b) Percentile score: This score indicates the percentage of peers who score below a given child's score. These scores are derived by arranging the scores of everyone within the sample group from high to low and computing the percentage of individuals at and below each score. The percentile score is an indication of relative standing in comparison to peers. The score is not based on a normal distribution.

c) Mean and standard deviation score: The mean represents the average score. The standard deviation reflects the variability of a set of scores.

2) Age-Equivalent Score: This score compares a child to other children at all ages sampled. The child is assigned an age-equivalent score corresponding to the age group the child scores like. These scores can be converted to developmental quotients. Age equivalent scores should not be used to identify impairment. Standard scores, percentiles or means and standard deviations should be used for this purpose.

2. Standard Error of Measurement (SEM): The SLP should also consider using the standard error of measurement to interpret test scores. This is an estimate of the amount which scores can be expected to fluctuate from test to retest due to imperfect reliability of the test. If a child is retested, his other score has a 68% chance of falling within plus/minus 1 SEM of the child's obtained score and a 95% chance of falling within plus/minus 2 SEM's of the obtained score.

D. **Non standardized Assessment**—The purpose of non-standardized assessments is to identify specific kinds of communication strengths and weaknesses that affect the student's educational performance. Many of these tools have not been adequately standardized to use as measures of relative rank. Information obtained from this type of assessment may be used in determining I.E.P. goals and objectives.

1. Types of non-standardized assessments include descriptive tests, criteria referenced tests, communication samples, screening procedures, and developmental scales.

a. Descriptive Tests provide information regarding specific areas of communication skills. Examples include:

1) Formal measures such as
   a) Evaluating Communicative Competence
   b) The Vocabulary Comprehension Scale

2) Informal measures including
   a) Inventories
   b) Checklists
   c) Observations

b. Criterion Referenced tests measure performance at a given point during the treatment process. Such tests are typically used as pretest and post test measures. Examples include C Pac Probes, those tests included in commercially published treatment programs and clinician generated materials.

c. Communication samples provide information regarding a variety of communication skills beyond the sentence level (i.e., discourse). These samples may be analyzed in such areas as: phonology, syntax, mean length of utterance, narratives, vocabulary, fluency, voice components, pragmatics, and intelligibility.

d. Screening procedures are designed to provide a sampling of relatively broad-based behavior in a brief period of time for the purpose of selecting students who need further evaluation or for identifying areas of deficit in which further assessment is indicated. Example of screening tests may include but are not limited to the Merrell, Fluharty, and Joliet.

e. Developmental Scales are designed to compare a student's communication skills with expected age and developmental levels. Typically scores are reported as age or grade equivalencies. Examples of Developmental Scales include the REEL, Preschool Language Scale, SICD, UTLD, and Birth to Three. (Include statement of why excluding age level and including normal curve.)

E. **Intellectual Testing**—If an intellectual evaluation is considered to be necessary for placement, as in the case of determining eligibility for a self-contained classroom for communication disordered students, a performance IQ or nonverbal M.A. should be obtained. Suggested instruments can be found at the end of the list of published tests.

(The above material was gathered from References 2,8,9, and 21 in Appendix J.)

Published Tests

Pub= Publisher

1 Western Psychological
2 Psychological Corporation
3 United
4 American Guidance Service (AGS)
5 Slosson Educational Publications, Inc.
6. DLM
7. Lingua Systems
8. The Speech Bin
9. Pro-Ed
10. Communication Skill Builders
11. *Multiple Publishers' Carry this Test*

NS = Not Standardized
NA = Not Available
• = Meets APA Standard

Test Name	Pub	Age	Area Tested
Assessment of Phonological Processes-R	9	NA	Articulation/phonological
Arizona Articulation Proficiency Scale	1	1.6-13.0	Articulation/Phonological
Assessment Link b/w Phonology and Articulation	7	3-8	Articulation/Phonological
Bankson-Bernthal Phonological Process Survey Test	11	3-9	Articulation/Phonological
C-PAC Probes-Clinical Probes of Articulation Consistency	2	5-Adult	Articulation/Phonological
Fisher Logerman	11	3-Adult	Articulation/Phonological
Goldman Fristoe Test of Articulation	4	2-16+	Articulation/Phonological
Kahn-Lewis Phonological Analysis	4	2.0-5.11	Articulation/Phonological
Photo Articulation Test	11	NA	Articulation/Phonological
Templin Darley	8	3-8	Articulation/Phonological
Test of Minimal Articulation Competence	2	3-Adult	Articulation/Phonological
Weiss Comprehensive Articulation Test	6	7.0-7.11	Articulation/Phonological
A Screening Test for Auditory Processing Disorders (SCAN)	2	3-11	Auditory Processing
Carrow Auditory-Visual Abilities Test	6	4-10	Auditory Processing
Flowers-Costello Tests of Central Auditory Abilities	11	GR. K-6	Auditory Processing
Goldman-Fristoe-Woodcock Auditory Skills Test Battery	4	3 to adult	Auditory Processing
Goldman-Fristoe-Woodcock Test of Auditory Discrimination	4	3 to adult	Auditory Processing
Preschool Language Assessment Instrument	2	3-6	Broad Screening Test NS
Preschool Language Scale	2	1-7	Broad Screening Test NS
Adolescent Language Screening Test	11	11-17 Yrs.	Broad Screening Test
Bankson Language Screening Test-2	11	3.0-6.11	Broad Screening Test
CLEF is no longer available			
Fluharty Preschool Speech and Language Screening Test	6	2-6	Broad Screening Test
Joliet 3 Minute Speech and Language Screening Test	11	5.0-11.0	Broad Screening Test
Riley Articulation and Language Test-R	1	GR. K-2	Broad Screening Test

Test Name	Pub	Age	Area Tested
Analysis of Language of Learning	7	5-9 Yrs.	Broad Test
Bankson Language Screening Test-R	11	4-7	Broad Test
Battelle Developmental Inventory •	6	0-8	Broad Test
Birth to Three	6	0-3	Broad Test
Clark-Madison Test of Oral Language	9	4-8 Yrs.	Broad Test
Clinical Evaluation of Language Functions •	2	GR. K-12	Broad Test
Clinical Evaluation of Language Fundamentals-R •	2	5.0 -16 Yrs.	Broad Test

Clinical Evaluation of Language Fundamentals-P	2	Preschool	Broad Test
Detroit Test of Learning Aptitude-2	11	6-17	Broad Test
Detroit Test of Learning Aptitude-P	11	3-9	Broad Test
Early Language Milestone Scale	9	Birth-3.0	Broad Test
Fullerton Test of Adolescent Language, 2nd Edit. *	11	11-18 Yrs.	Broad Test
Kindergarten Language Screening Test	9	5	Broad Test
Recept.-Express. Emergent Language Test -2	11	Birth to 3.0	Broad Test
Screening Test of Adolescent Language	5	Jr. and Sr. High	Broad Test
Sequen. Invent. of Comm. Develop.-R	11	4-48 Mos.	Broad Test
Slosson Artic., Lang. Test with Phono.	5	3.0-5.11	Broad Test
Test of Adolescent Language-2	11	12-18.5	Broad Test
Test of Auditory Comprehension of Language-R	6	3.0-9.11	Broad Test
Test of Auditory Comprehenson of Language *	6	3.0-9.11	Broad Test
Test of Early Language Development-2 *	11	2.0-7.11	Broad Test
Test of Language Competence-Expanded Edit.	2	5-18	Broad Test
Test of Language Development-2 Intermediate *	11	8.6 -12.11	Broad Test
Test of Language Development-2 Primary *	11	4.0-8.11	Broad Test
Test of Relational Concepts	9	3.0-7.11	Broad Test
Test of Written Language-2	6	7.0-17.11	Broad Test
Token Test for Children	6	3-12	Broad Test
Utah Test of Language Development -3	11	3-10.11	Broad Test
Verbal Language Development Scale	4	0-15	Broad Test
Early Language Milestone Scale	9	Birth-3.0	Broad Test
Assessing Language Skills in Infancy	11	0-3	Broad Test NS
Assessment of Children's Language Comprehension-R	11	3-7	Broad Test NS
Iowa's Severity Rating Scales	9	NA	Broad Test NS
Let's Talk Inventory for Adolescents	2	9-adult	Broad Test NS
Let's Talk Inventory for Children	2	4-8	Broad Test NS
Rossetti Infant-Toddler Language Scale	11	Birth-36 Mos.	Borad Test NS
Sequenced Inventory of Communicative Development	1	4-48 months	Broad Test NS
**How about having the same format for the intelligence test list as for the speech-language list?			
Halstead-Reitan Neuropsychological Test Battery	11	5-15	Head Injury
Illinois Test of Psycholinguistic Abilities	1	2-10	Head Injury
Muma Assessment	9	3-7	Head Injury
Test of Higher Cognitive Process	11	Gr. 4-6	Head Injury
Test of Non-Verbal Intelligence	5	5-85.11	Head Injury
Test of Reading Comprehension	11	7-17	Head Injury
Differential Aptitude Test	2	8th-12th Grade	Level B Test
Differential Abilities Scale (Level C)			
Test of Non-Verbal Intelligence-R	9	5.0-8.5	Level B Test
Vocabulary Comprehension Scale	7		
Test of Pragmatic Skills	10	3-8	Pragmatics
Test of Problem Solving	7	6-11	Pragmatics
Evaluating Communicative Competence	11	9-17	Pragmatics NS
ECO: An Ecological Communication Program	10	NA	Pragmatics NS
Assessing Semantic Skills Through Everyday Themes	7	3-9	Semantic Test
Boehme Test of Basic Concepts-Preschool Version *	2	3-5	Semantic Test
Boehme Test of Basic Concepts-R	2	GR. K-2	Semantic Test
Bracken Basic Concept Scale *	2	2.6-8.0	Semantic Test
Expressive One Word Picture Vocabulary Test *	11	2.0-11.11	Semantic Test
Test Name	**Pub**	**Age**	**Area Tested**
Expressive One Word Picture Vocabulary Test- Upper Ext. *	11	12.0-15.11	Semantic Test
Language Processing Test	7	5-11	Semantic Test
Peabody Picture Vocabulary Test-R *	4	2.6-adult	Semantic Test
Receptive One Word Picture Vocabulary Test *	11	2-11	Semantic Test
Receptive One Word Picture Vocabulary Test- Upper Ext. *	11	12.0-15.11	Semantic Test
Test of Word Finding	6	6.6-12.11	Semantic Test
Word Test	7	7-11	Semantic Test
Word Test-Secondary Level	7	12-17	Semantic Test
Enviromental Language Inventory	11	NA	Semantic Test NS
Environmental Pre-Language Battery	11	NA	Semantic Test NS
Vocabulary Comprehension Scale	6	2-6	Semantic Test NS
Carrow Elicited Language Inventory	6	4-10	Syntax/Morphology
Clark Madison Test of Oral Language	11	4-8	Syntax/Morphology
Test for Examining Expressive Morphology	10	3-8	Syntax/Morphology
Multilevel Informal Language Inventory	2	GR. K-6	Syntax/Morphology NS

Recommended Cognitive Tests for Students with Communication Disorders

This list is not all inclusive. Other instruments should be evaluated and included as appropiate. Recommended by: Brett Barrett, Psychologist, Granite School District; Art Eichbauer, Psychologist, Jordan; and Jean Sorenson, Psychologist, Granite.

Level B Tests
(Administered by teachers with advanced level training in test administration and interpretation.)

Batelle Developmental Inventory, 1984	Newborn to 8
Matrix Analogies Test - Expanded Form, 1985	5.0 to 17
Test of Nonverbal Intelligence, 1982	5.0 to 85.11
Ravens Progressive Matrices (Standard), 1965	6 to adult

Level C Tests
(Administered by psychologists)

Wechsler Scales: Field Scale or Performance Scale	
WPPSI-R	4.0 to 6.6
WISC-R	6.0 to 16.11
WAIS-R	17 to 74.11
Stanford-Binet (S-B) IV: Composite or Partial	
Composite SAS	2.0 to 23
Kaufman Assessment Battery for Children (KABC):	
MPC or Nonverbal Standard Score	2.6 to 12.5
Columbia Mental Maturity Scale, 1972	3.6 to 9.11
Leiter International Performance Scale, 1950	1.0 to 18.0

CD placement can be based on any of the listed instruments. Only self-contained CD placement requires an individual Level C ability test. The use of a test other than a Wechsler, Stanford-Binet IV or K-ABC needs a written justification as does the use of a partial score (Wechsler Performance, S-B partial composite or K-ABC Nonverbal.)

DEPARTMENT OF SPEECH/LANGUAGE PATHOLOGY
REPORT OF MEDICAL EVALUATION

STUDENT NAME _____ D.O.B _____

To be completed by the Speech-Language Pathologist

REASON FOR REFERRAL:

Area	Normal	Abnormal-Description
PITCH		
QUALITY		
INTENSITY		
RESONANCE		

Referring Speech-Language Pathologist _____ Date _____

COMMENTS: _____

To be completed by the examining Laryngologist:

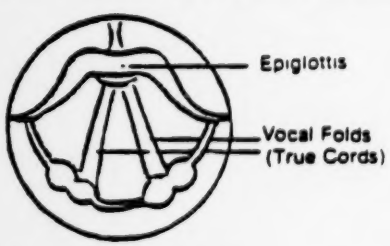
Area	Normal	Abnormal-Description
NOSE		
PHARYNX		
LARYNX		
OTHER		

YOUR DIAGNOSIS _____

YOUR TREATMENT PLAN _____

Has the patient's condition changed since the last examination? _____ If so, how? _____

Are there any medical findings that would contradict voice therapy? _____



Indicate Pathology Here

COMMENTS: _____

Examining Laryngologist _____

Prereferral Fluency Checklist*

Student: _____ Date: _____

Teacher: _____ Grade: _____

Please fill out this form and return it to the Speech-Language Pathologist. Your observations will help determine if this child's communication problem is affecting his/her educational performance. Thank you.

	Yes	No
1. Does this student have reduced verbal output?	___	___
2. Does this student avoid talking in class?	___	___
3. Do you feel this student is delayed in language skills?	___	___
4. Does this student use significantly more one-word responses (ex. twice as many) than the other students in your class?	___	___
5. Does this student dislike reading aloud?	___	___
6. Is this student delayed in reading skills?	___	___
7. Does this student correct or revise his/her verbal reading errors as often as the other students in your class revise their reading errors?	___	___
8. Does this student have problems remembering and correctly repeating a sequence of words, ideas, etc.?	___	___
9. Do you think this student knows he/she is having problems when he speaks?	___	___
10. Has this student ever talked to you about his/her speech problem?	___	___
11. Have either of the student's parents talked to you about his/her fluency problems?	___	___
12. Do classmates make fun of this student because of his/her fluency problems?	___	___
13. Have you heard anyone call him/her a stutterer?	___	___
14. Does this student's speech problem make it difficult to understand the content of his/her speech?	___	___
15. Does this student's fluency problem distract you sometimes from *what* he/she is saying?	___	___

16. What strategies have you tried in order to correct the problem? How long? (number of days - weeks)

_____

_____

_____

Classroom Teacher Signature

*This checklist may be adapted to meet district's needs. Additional questions may be added or deleted.

Student: _____ Date: _____
Age: _____ School: _____
Grade: _____ SLP: _____

Assessment of Nasal Airflow

Instructions:
Place a detail reflector or mirror under the student's nostrils after the word "will" is said and remove it on the word "you". The carrier phrase decreases the chances of pre- or post-vocalization airflow. Clouding of the detail reflector demonstrates presence of nasal airflow.

Indicate:

- Whether airflow is from neither (N), one (left/right) or both nostrils (N-L-R-B)
- Whether airflow is visible, audible or both (V-A-B)
- The amount (slight, moderate or severe) of clouding of the mirror (Sl-M-S)

		Nostrils	Airflow	Amount
1.	I will *see* you all.	N-L-R-B	V-A-B	Sl-M-S
2.	I will *pass* you all.	N-L-R-B	V-A-B	Sl-M-S
3.	I will *chase* you all.	N-L-R-B	V-A-B	Sl-M-S
4.	I will *ask* you all.	N-L-R-B	V-A-B	Sl-M-S
5.	I will *buzz* you all.	N-L-R-B	V-A-B	Sl-M-S
6.	I will *jab* you all.	N-L-R-B	V-A-B	Sl-M-S
7.	I will *trust* you all.	N-L-R-B	V-A-B	Sl-M-S

Clinical Impressions:

Adapted from McWilliams & Philips, 1979

Student: _____ Date: _____
Age: _____ School: _____
Grade: _____ SLP: _____

Hypernasality Index Assessment

A. Circle words or vowels on which a shift in tone quality occurred when nares were closed (i.e., indicating velopharyngeal insufficiency). Ask the student to repeat the word loudly, then say it again while the nares are pinched.

beet	bit	bait	bet	bat
bought	boat	boot	but	Bert

B. For infants or young children try alternately pinching and opening the nares as the student utters prolonged vowels. Circle those on which resonance shifts.

/i/	/u/	/i/	/u/	/i/
/u/	/i/	/u/	/i/	/u/

This test requires production of ten words or vowels. The number of words or vowels on which a resonance shift occurs with the nares closed provides an index of hypernasality in the form of a ratio, ex: 4:10.

Hypernasality Index __:__

*Adapted from Bzoch, 1980

JORDAN SCHOOL DISTRICT
Speech-Language and Hearing Services

EVALUATION OF STUTTERING

I. Background Information Date_____

Name _____ Age _____ Grade _____

School _____SLP _____

Siblings (age) Brothers Sisters

_____ _____

_____ _____

_____ _____

Other persons in the home _____

_____

II. Description of Problem

A. Parents Description _____

_____

B. Student's Description _____

_____

C. Teacher's Description _____

_____

D. Effect of Situations or Individuals (when worst; when best; ever absent)_____

_____

_____

E. Special Circumstances--does stuttering occur when:

alone_____ with peers_____ on telephone_____

speaking to groups_____ reading aloud _____

singing_____ angry_____ excited_____

relaxed_____ tired_____ in good mood_____

Particular sounds or words with specific family members:

Whom_____

Other occurrences_____

F. Techniques of Control _____

_____

III. Relevant History

A. Probable Cause _____

1. Age of onset _____

2. Type of stuttering behaviors _____

_____

B. Subsequent History

1. How has it varied_____

2. Related events_____

C. Other Speech Problems

1. In the past_____

2. Presently_____

D. Pertinent Medical Information:

_____

_____

_____

E. Academic, Environmental and Social Information:

_____

_____

_____

F. Family History of Speech Problems _____

IV. Experience

A. Awareness of and Attitude Toward Dysfluency

1. Parent's_____

2. Child's_____

3. Others' (siblings, teachers, peers)_____

_____

B. Previous treatment or management_____

_____

C. Recommendations_____

_____

_____

Jordan School District
Speech-Language Pathology
Voice Assessment

Name: _____ Date: _____

School: _____ Grade: _____

ELICITED BEHAVIOR

"Take a deep breath and sustain 'ah' as long as you can, like this . . . . . ."

OBSERVED BEHAVIOR

1. Duration less than 6 sec? _____
2. Initiation of "ah" Rough? _____
   Smooth? _____
3. Integrity of sustained voicing:
   Irregularity of pitch? _____
   Irregularity of vocalization? _____
4. Termination of "ah" Rough? _____
   Smooth? _____
5. Overall acoustic judgment:
   Tension? _____
   Breathiness? _____
   Hypernasality? _____

SEVERITY JUDGMENT

1 2 3 4 5 6 7
(normal) (severe)

LARYNGEAL CAVITY RATING

Pitch
(High)

+3
+2
(Open) -4 -3 -2 1 +2 +3 (Closed)
-2
-3
(Low)

Spontaneous Speech
(Recorded)

"Tell me your name, age. Count to 10 and tell me what you like to do best."
and (when possible)

Reading Sample

list sample read _____

RESONATING CAVITY RATING
(Hypernasal)

+4
+3
+2
1 +2 (effeminate)
-2
(Hyponasal)

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Continued

INTENSITY RATING

(Soft) -2 1 +2 (Loud)

VOCAL RANGE RATING

(Monotone) -2 1 +2 (Variable Pitch)

PERSISTENCE OF PROBLEM THROUGHOUT SAMPLE

Constant _____ Variable _____

ADDITIONAL OBSERVED BEHAVIORS

Diplophonia? Variable _____ Constant _____
Phrasing? Erratic _____
Audible Inhalation? Yes _____ No _____
Immature Resonance? Yes _____ No _____
Frontal Resonance? Yes _____ No _____

ORAL EXAMINATION

Upper Respiratory Function:
Enlarged Tonsils _____
Lymph Node Enlargment _____
Excessive Mucus in the pharyngeal area _____

HISTORY:

1. General circumstances surrounding onset of problem. _____

2. Was onset sudden or gradual? _____

3. How long has problem existed? _____

4. In what situations does voice deviation vary? _____

5. Has there been any surgical treatment or medication related to time of onset? _____

6. Are there reports of vocal abuse, i.e., _____ frequent coughing; _____ loud talking; _____ talking in high noise environments, e.g., car, motorcycle, snowmobile, machinery, etc; _____ screaming; _____ unusual use of voice, e.g., imitation toys, animals; _____ other.

7. History of chronic respiratory difficulties such as sinusitis, allergies or other problems—diabetes, pituitary dysfunction, etc.? _____

PLACEMENT DECISION:

Observation _____ Medical Referral _____ Management _____

Speech-Language Pathologist _____

JORDAN SCHOOL DISTRICT

VOICE EVALUATION

NAME_____ DATE_____

GRADE_____ TEACHER_____

AGE_____ SCHOOL_____ SLP_____

****

RELEVANT HISTORY:

1. Siblings (age) Brothers Sisters

_____ _____

_____ _____

_____ _____

_____ _____

2. Other persons in the home _____

_____

3. Age at onset of speech _____

4. Age at onset of voice disorder _____

5. Trauma, possibly associated with the voice disorder _____

_____

6. Abusive behaviors possibly associated with voice disorder

_____

7. Family history of voice problems _____

_____

8. Pertinent medical and psychological information _____

_____

_____

_____

_____

9. Awareness of and attitude toward voice disorder

   A. Child _____

      1. Most difficult speaking situation _____

      _____

      2. Easiest speaking situation _____

      _____

      3. Motivation to improve _____

      _____

   B. Parents _____

   _____

   C. Siblings _____

   _____

   D. Classroom Teacher _____

   _____

10. Academic, environmental and social information _____

   _____

   _____

   _____

11. Previous treatment and management _____

   _____

   _____

   _____

VOCAL ABUSE CHART

Student: _____ Date: _____

Age: _____ School: _____

Grade: _____ SLP: _____

. . . . . .

Circle numbers in both columns:

Key: Amount: 1 = little 2 = frequent 3 = excessive

Degree: 1 = mild 2 = moderate 3 = severe

N = None

. . . . . .

Amount	Degree	
1 2 3	1 2 3	SHOUTING
1 2 3	1 2 3	SCREAMING
1 2 3	1 2 3	CHEERING
1 2 3	1 2 3	STRAINED VOCALIZATION
1 2 3	1 2 3	EXCESSIVE TALKING
1 2 3	1 2 3	REVERSE PHONATION
1 2 3	1 2 3	EXPLOSIVE RELEASE OF VOCALIZATIONS
1 2 3	1 2 3	GLOTTAL ATTACK
1 2 3	1 2 3	THROAT CLEARING
1 2 3	1 2 3	COUGHING

Additional Comments:

JORDAN SCHOOL DISTRICT

Speech-Language Pathology

e:_____ Date:_____

School:_____ Age:_____

Grade:_____ SLP:_____

Categories of Overuse	Number of Occurrences	Number of Utterances in Sample	Percentage of Overuse
1. Pauses			
2. Place Holders			
3. Stereotyped Phrases			
4. Starters			
Indefinites			
6. Circumlocutions			
7. Words Lacking Specificity			
8. Imprecise and Restrictive Verb Use			
9. Perseverative Repetitions			
10. Revisions			
11. Other:			
Totals:			

CATEGORIES OF OVERUSE TAXONOMY

Category of Overuse	Characteristic Expressions	Sample Utterances
1. Prolonged pauses	pause	I went to (pause) the store to buy (pause) some (pause) delicious (pause) something.
2. Semantically empty place holders	uh, uhm, err, ah, well... prolongations of words	I err ah went to err ah the uhm store to buy uh some err delicious well err something.
3. Stereotyped phrases	whatchama call it, you know, you see...	You see, I went to the whatchama call it store to buy that thing, you know.
4. Starters	and, then, and then, now, well, etc., used to begin sentences, phrases, and clauses	And then I went to the store and then I bought something well that was delicious.
5. Indefinites	this, that, something somewhere...	Somehow, I went to this place somewhere to buy something delicious.
6. Circumlocutions	descriptions rather tha labels such as "things you can eat/drink/play with," etc.	I went to this place where you can buy things to eat and I bought something to eat that tasted delicious.
7. Words lacking specificity	thing, junk, stuff, place...	I went to this place to buy some stuff and I got some junk that tasted delicious.
8. Imprecise and restrictive verb use	got, made, put...	I got the fish. (caught) I made the dress. (sewed) I put the bulbs near the tree. (planted)
9. Perseverative repetitions	repetitions of sounds, syllables, words, phrases, clauses, or ideas	I'm going to have cream, ice cream, vanilla ice cream.
10. Revisions	revising phrases or sentences and changing the meaning of the message being conveyed	He ran the dog ran to the um under the house.

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JORDAN SCHOOL DISTRICT

LANGUAGE SAMPLE ANALYSIS

Sentence Types -- Structural Complexity

INSTRUCTIONS:

Obtain a spontaneous language sample of 50 to 100 utterances. Give each sentence a score (1-9) according to the sentence types listed below. Compute the percentage of usage by totaling the number of sentences per type (i.e. 18 total sentences of type 3) and dividing by the total number of utterances in the sample (i.e. 18/100 utterances = 18% usage). Put the percentage figure on the line next to the sentence types.

SCORING GUIDE:

_____% 1. Sentences which are agrammatical and/or incomplete, (i.e. "Car goes slow")

_____% 2. Simple (declarative or imperative) sentences, (i.e. "The children ate the cookies" or "Mary will tell the story.")

_____% 3. Simple (declarative or imperative) sentences with compound subject, verb, or object, (i.e. "The man and woman were driving the car.")

_____% 4. Simple (declarative or imperative) sentences with one or more phrases such as prepositional or adverbial phrases, (i.e. "The children walked home from school very slowly.")

_____% 5. Compound (declarative or imperative) sentences, (i.e. "The children sang the song and the mother listened.")

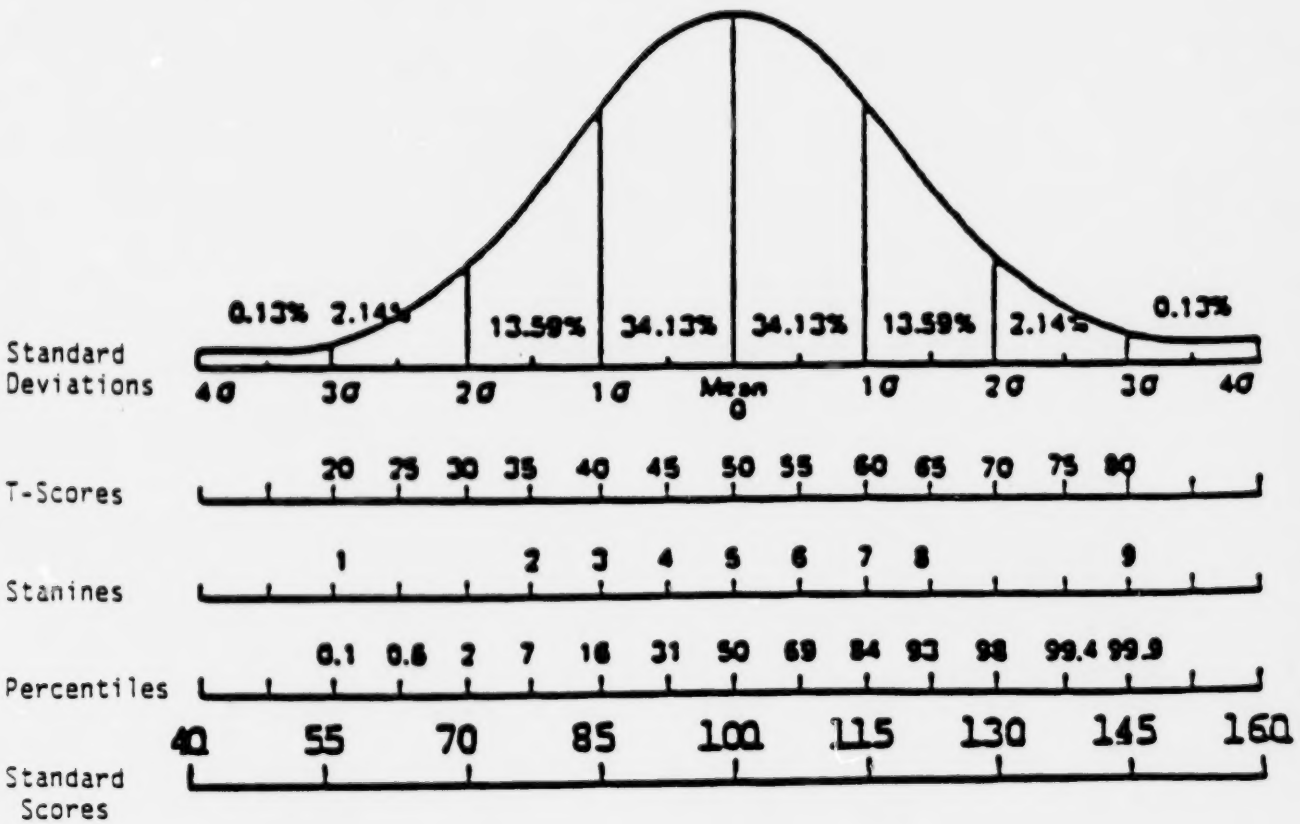
_____% 6. Negative sentences, (i.e. "The boy said nothing.")

_____% 7. Interrogative sentences, (i.e. "Didn't the man tell the story?")

_____% 8. Complex sentences with subordinating conjunction (if, so, because, after, before), (i.e. "The children would sing the song if their teacher would let them.")

_____% 9. Complex sentences with relative clauses, possessive clauses or embedding, (i.e. "The book that belongs to John was found." "The new shiny yellow car standing next door belongs to me." "The yellow car belongs to the boy's father.")

NORMAL DISTRIBUTION CURVE: Bell shaped curve representing the theoretical distribution of an infinitely large number of scores with deviation from the mean only by change.



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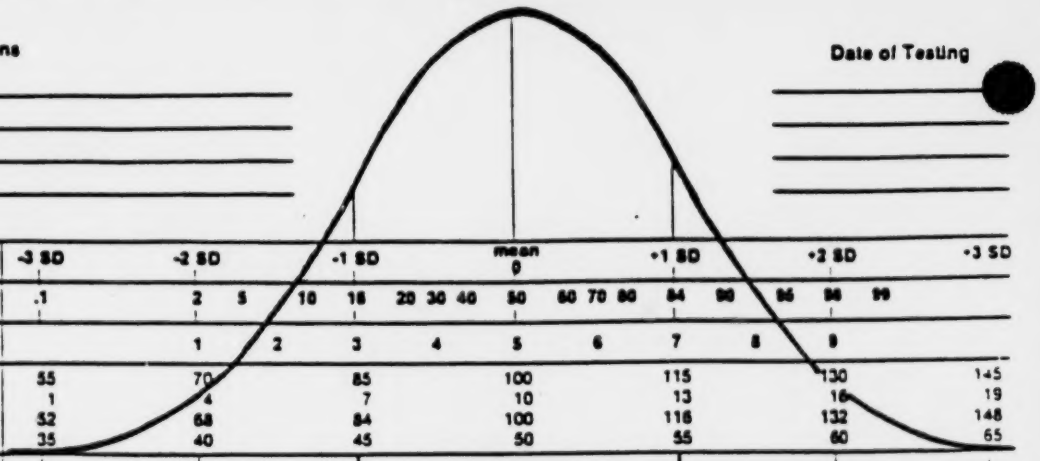
e _____ Birthdate _____ Age _____ Date _____

ool _____ Grade _____ Teacher _____



ndard Deviations		-3 SD		-2 SD			-1 SD			mean 0			+1 SD			+2 SD		+3 SD
rcentiles		.1		2	5	10	16	20	30	40	50	60	70	80	84	90	95	98	99	
anines				1		2		3		4	5		6		7	8		9		
ndard Scores	SD																			
	15	55		70			85				100				115			130		145
	3	1		4			7				10				13			16		19
	16	52		68			84				100				116			132		148
	5	35		40			45				50				55			60		65

| TESTS | SCORES | | | | | | | | | | | | | | | | | | |

A Review of 16 Major Phonological Processes

Linda M. Laila Khan

Khan

This paper is a description of 16 phonological processes. These processes have been identified in the speech of both normal children and children with a deviant pattern of language development. Limited information is available regarding the use of these processes in normal and disordered language development.

Children's early attempts at producing speech result in forms which defy analysis by traditional methods. The common /wawa/ for *water* cannot be described as a /w/ for /t/ substitution with omission of the final /r/. Yet, the majority of articulation assessment and treatment methods consider substitutions, omissions, and distortions of individual sounds (Fairbanks, 1940; Fisher & Logemann, 1971; Goldman & Fristoe, 1969; McDonald, 1964; Mowrer, 1980; Scott & Milisen, 1980; Templin & Darley, 1960; Van Riper, 1972). Considerations of position-in-word and age at which some percentage of normal children have developed a sound are useful for children with a few misarticulations. The need for an alternative approach becomes evident when this traditional approach is similarly applied to children with severe multiple misarticulations arising from an underdeveloped phonological rule system. Lund and Duchan (1978) advocated a combination of three analyses: the traditional approach, phonological process analysis, and identification of idiosyncratic patterns of production. In a phonological process analysis, rules are constructed that describe the relationship between the child's production and the adult target language. In this way it has been possible to describe or account for articulation errors which have previously seemed random.

Several phonological theories have been offered to explain rule-governed production of sound pattern (Ingram, 1976, pp. 3-4). When the adult form of a word is simplified by the young language learner, it is possible to account for the simplification by determining the phonological processes—or rules—which were used in the simplification process. Unlike examining sound substitutions, phonological processes include the effects of the sound environment, syllable structure, and feature contrasts. Using phonological process analysis, we can account for /wawa/ as the *reduplication* of the initial syllable of the word *water*, rather than as a /w/ for /t/ substitution and omission of the final /r/, which clinical knowledge indicates is an inappropriate description.

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Phonological processes have been described in the literature by several major investigators (Compton, 1970; Ingram, 1974; Lund & Duchan, 1978; Panagos, 1974; Schwartz, Leonard, Folger, & Wilcox, 1980a; Shriberg & Kwiatkowski, 1980). There is consensus among linguists that these processes serve to simplify the child's production of words and syllables. Processes tend to result in movement toward a primary CV syllable. For example the process of *cluster reduction* would simplify the word *stay* (CCV) to /te/ (CV). The process of *deletion of unstressed syllable* would simplify the word *giraffe* (CVCVC) to /ræf/ (CVC). *Deletion of final consonant* is a process which would further reduce /ræf/ to /ræ/ (CV). The various processes noted in the literature are used in an attempt to describe sound/syllable/word systems in both normal and deviant phonological development at one point in time.

It is not yet clear whether children with deviant phonologies use processes characteristic of children at earlier stages or whether their processes are in fact deviant. Schwartz et al. (1980a) found no differences in phonological processes or variability between three normal and three language-disordered children matched for MLU. Leonard (1978) reviewed many of the studies which describe both deviant and normal phonologies and concluded that the difference between deviant and normal phonology may be an artifact resulting from the small number of studies of normal child phonology.

Ingram (1976), on the other hand, described deviant processes in addition to persistent normal processes. He described several processes which appear to occur only in deviant phonological systems. These are: lisping; substitution of /t/ for /f/; nasal preference; fricative preference; metathesis; retention of /s/ in clusters; lack of reduplication; tendency to overuse articulation which has been developed (p. 116). In disordered phonological systems, several processes are productive simultaneously in addition to the presence of possibly deviant processes. The product is typically speech that is unintelligible to unfamiliar listeners.

As a result of recent studies, some preliminary developmental information is available for a few of the phonological processes. These data are scattered and in some cases are based upon single subject diary studies. There is very little in the way of controlled, longitudinal examination of large numbers of children to determine which phonological processes are normal, which are deviant, and when normal processes drop out in the developmental sequence.

From the studies which are currently available, several descriptions may be helpful in attempting to differentiate normal from deviant phonological development. The most frequently noted processes are:

1. *Affrication*
2. *Assimilation*
3. *Cluster reduction*
4. *Coalescence*
5. *Deletion of final consonants*
6. *Final consonant devoicing*
7. *Fronting and backing*
8. *Gliding*
9. *Glottal replacement*
10. *Metathesis*
11. *Prevocalic voicing*
12. *Reduplication*
13. *Stopping*
14. *Vocalization*
15. *Weak syllable deletion*
16. *Idiosyncratic processes*

The purpose of this paper is to describe these major processes and their relationship to normal and disordered phonological development. When the appropriate longitudinal studies have been completed, presence of some of these processes may prove valuable in early identification of children with phonological disorders.

Processes

1. Affrication. Affrication is the use of an affricate to replace a fricative. This is similar to the process of *stopping* in that it results in decreasing the duration of the consonant. Examples are /dʒibʌ/ for *zebra* and /tʃʌvəl/ for *shovel*. Most fricatives should be correctly produced by age 4. The continuant feature should be present by then, although some fricatives (ʒ, ð, and z) may still be misarticulated (Shriberg & Kwiatkowski, 1980).

2. Assimilation. Assimilation is the process that occurs when an earlier sound influences a later one or vice versa. Examples of assimilation (Lund & Duchan, 1978) are /pʌp/ for *cup* and /dɔd/ for *dog*. Weiner included several types of assimilation in his *Phonological Process Analysis*. These are *labial assimilation, alveolar assimilation,* and *velar assimilation*. Examples of labial assimilation are /pebo/ for *table* and /wʌm/ for *thumb*. Examples of alveolar assimilation are /dɔdi/ for *doggie* and /lɛlo/ for *yellow*. Examples of velar assimilation are /gɔgi/ for *doggie* and /gaigu/ for *tiger* (taken from Weiner, 1979). These productions require reduced range of motion of the articulators. In each set of probes, Weiner recommended the use of control syllables in the following manner. If the child produces /gɔg/ for *dog*, s/he is then asked to repeat /dɔ/. If the child then produces /dɔ/ for /dɔ/, the Examiner can conclude that velar assimilation occurred in /gɔg/. If, however, the child produces /gɔ/ for /dɔ/, then the Examiner must conclude that the child used the process of *backing*.

Shriberg and Kwiatkowski used the terms *progressive* and *regressive assimilation*. In progressive assimilation, consonants are affected by preceding consonants. For example: /nɔ:ni/ for *noisy* and /dɔdi/ for *doggie*. In regressive assimilation, consonants are affected by succeeding consonants. Examples of regressive assimilation would be /kɔk/ for *talk* and /gɔgi/ for *doggie*.

Nasal assimilation is the tendency to assimilate with a nasal whenever it is present in the adult form of the word. Examples of nasal assimilation are: /nɛno/ for *pencil* and /muʔma/ for *Cookie Monster*.

Shriberg and Kwiatkowski reported that assimilation occurs during their Stage III: *phonology of the simple morpheme* (age 1:6–4:0). They indicated that it disappears from phonological development sooner than most other processes occurring during Stage III. Schwartz et al. (1980a) found that all six of their children (three normal and three disordered, matched for MLU) used the process of assimilation productively. The three disordered children were 1–2 years older than the three normals. In this case, the process persisted remarkably in the phonologies of the disordered children. Since theirs was not a longitudinal study, the age at which assimilation normally disappears from production is uncertain.

3. Cluster reduction. This is the reduction of consonant clusters to a single consonant. The reduction may be in the form of a retained consonant or a consonant substitution for one of the consonants. Some examples of cluster reduction are /tap/

for *stop*, /tɔ/ for *straw*, and /dɛk/ for *desk*. Cluster reduction is characteristic of normal development. It frequently occurs in the speech of children with deviant articulation. There are no data currently available to indicate when the presence of various cluster reduction patterns becomes indicative of deviant phonological development. Ingram (1976, p. 116) noted that fricative preference, an unusual process, results in retention of /s/ in S-clusters for some children with deviant phonological development. Generally, stops are retained in S-clusters because they are less marked (Ingram, 1976, p. 32) or phonetically simpler to produce and are earlier developing (Prather, Hedrick, & Kern, 1975). Thus /pɪl/ for *spill* is a more common cluster reduction than /sɪl/ for *spill*. Since cluster reduction is the "most common and longest lasting stage" in the development of cluster production (Shriberg & Kwiatkowski, 1980, p. 138), it is doubtful that the process of cluster reduction will be useful as an early prognostic indicator, except perhaps when it involves fricative preference. Shriberg and Kwiatkowski reported 90% correct production of clusters by age 4.

4. *Coalescence. Coalescence* includes words which are produced with fewer syllables than their corresponding adult form. This differs from *weak syllable deletion* in that elements of all syllables are retained. Examples are: /mɛn/ for *melon*, where the /m/ from the initial syllable and the /n/ from the final syllable are preserved; and /æʃ/ for *radish*, where the /æ/ and /ʃ/ are retained from the initial and final syllables, respectively. These examples are from Lund and Duchan. Very few examples of this process appear in major diary studies, and it has not been considered in most studies of disordered phonological development.

5. *Deletion of final consonants. Deletion of final consonants*, as a process, was first noted in the literature by Renfrew (1966) in her discussion of defective articulation. Examples are /bɛ/ for *bed* and /dʌ/ for *duck*. Renfrew referred to this process as the "open syllable" and reported that it persists in articulatorily defective speech until nearly all consonants have been acquired in initial position. Children who are developing language normally will begin to include final consonants by age 3 (Ingram, 1976, p. 29; Renfrew, 1966). By this age, relatively few consonants have been used appropriately in initial position when consonants begin to appear in the final position. Our own clinical impression is that the predominance of this process of deletion of final consonants in the speech of children younger than 3:0 is an early predictor of phonological deviancy and associated language delay. Panagos (1974) reinterpreted the open syllable as a symptom of a more generalized language disorder. He considered the following to be examples of open syllables:

CVC → CV
CCVC → CV
CVCC → CVC[1]
CCVC → CVC[1]

Additional information is needed regarding the use of deletion of final consonants in normal phonological development and its implications for linguistic disorders if its use persists beyond a certain age or stage of phonological development.

[1]Subsequent treatments have considered reduction of CC→C as cluster reduction, rather than open syllable.

6. Final consonant devoicing. Another process reported frequently in the literature is *devoicing of final consonants*. Some examples of this are /nap/ for *knob* (Smith, 1979) and /mat/ for *mud* (Velten, 1943). Several investigators of child phonology view this as assimilation with the silence immediately following the syllable (Ingram, 1976; Ohala, 1974; Oller, 1974). Smith found that children devoiced final consonants more often than adults, but that their devoiced final stops contained significantly more voicing spectrographically than their voiceless stops, indicating that they were, in fact, making a distinction. He reported that gross devoicing of final consonants did not occur after age 3:0 in normal phonological development. This probably would be a valuable early indicator of deviant phonological development.

7. Fronting and backing. These are considered together because they are forward and backward substitutions which do not involve assimilation. Examples of fronting are /su/ for *shoe* and /ti/ for *key*. Examples of backing are /geit/ for *date* and /dai/ for *buy*. They differ from assimilation in two ways: First, the processed consonants do not conform to the place nor manner of other consonants in the word (such as /gɔgi/ for *doggie*, where the "backed" /d/ is assimilating with the medial /g/). Second, the process operates in all or most instances of the occurrence of one or several phonemes. Shriberg and Kwiatkowski reported that gradually the processes of *fronting* and *backing* are discontinued in the medial position, then in the initial and final positions, and finally they are no longer evident by age 4.

8. Gliding. Gliding (i.e., the use of /j/ and /w/) is a process involving the occurrence of fricatives and liquids. Examples are /owʌ/ for *over*, /wif/ for *leaf*, and /wabi/ for *Robbie*. Gliding is commonly part of the normal developmental sequence. Shriberg and Kwiatkowski described gliding of liquids as the middle stage in this process of *liquid simplification*. Stopping of liquids is the first stage, and interchanging liquids is Stage III. The majority of children reportedly produce correct liquids by age 4 (Shriberg & Kwiatkowski, 1980).

9. Glottal substitution. This has not been mentioned in major descriptions of normal phonological development (Ferguson, 1978; Ingram, 1976). This process involves the use of a glottal stop /ʔ/ to replace a consonant. In some adult forms, the use of a glottal stop is appropriate (e.g., /baʔl/ for *bottle*). The process as a symptom of deviant development would need to be present in productions which are inconsistent with local adult forms. Recently, Schwartz et al. (1980a) reported that it was used productively by two children with normal phonological development. *Productive* was defined as at least two instances of the process in the child's 3- to 6-hour speech sample. Use of glottal substitution in normal phonological development needs further investigation.

10. Metathesis. Ingram (1976, p. 117) briefly mentioned *metathesis*, describing it as an unusual phonological process. Metathesis is the sequence alteration of two phonemes in a word. Examples given by Edwards and Bernhardt (Note 1) include /ˈpɛs̩ni̯/ for *pencil*, where the /n/ and /s/ were transposed; and /ʃɪpʰ/ for *fish*, where the /ʃ/ and /f/ (as a /p/ substitution) were transposed. This may represent difficulty with temporal sequencing (Aram, 1980; Yoss & Darley, 1974).

11. Prevocalic voicing. Weiner included *prevocalic voicing* as a major phonological process. Examples of this might be /gom/ for *comb* and /dai/ for *tie*. Prevocalic voicing appears to be a type of assimilation which occurs in this case between the initial

voiceless consonant and the immediately succeeding voiced vowel. The result is complete or partial voicing of the initial consonant. Examples are included in the diary studies of Velten (1943) and Menn (1971), such as /bus/ for *push* and /gar/ for *car*. Whether this process is present in both normal and disordered phonologies, to what extent, and until what age or stage has not been reported. However, Macken and Barton (1980) described a normal sequence of acquisition from no significant difference between VOT for voiced versus voiceless initial consonants, to a significant difference which does not yet correspond to adult-like phoneme boundaries, to VOTs which do correspond to adult phoneme boundaries.

12. Reduplication. A process which is reportedly common during and limited to the first 50 words is that of *reduplication* of CV syllables (Ingram, 1976, p. 31). Reduplication is the use of two identical or nearly identical syllables in an effort to produce adult equivalents consisting of reduplicated (/dɛdɛ/ for *bye-bye*) or non-reduplicated (/wawa/ for *water*) syllables (Leonard, Miller, & Brown, 1980; Schwartz, Leonard, Wilcox, & Folger, 1980b). Partial reduplication is also common as in the forms of /dædu/ for *thank you* and /bobi/ for *broken*. Reduplication has been described as a process seen only in normal development (Ingram, 1976). One study (Schwartz et al., 1980b) reported the use of reduplication by a child with a deviant phonological system. The authors labeled children "reduplicators" and "non-reduplicators," based upon individual preference. They found that half of their subjects were reduplicators and half were non-reduplicators. The ages of their subjects ranged from 1:3 to 2:0. All of the subjects' linguistic developmental milestones were considered to be within normal limits. It may be that there are reduplicators and non-reduplicators and that these are just variations in style for normal or disordered phonological acquisition. The presence of reduplication after the first 50 words would then not be a reliable index of deviant phonological development. If, however, those authors had presented the size of the lexicons of their subjects, Ingram's conclusion that reduplication is limited to the first 50 words might still apply. Schwartz et al. (1980a) reported the use of reduplication by all three normal-speaking subjects and one of three language-disordered children. The notion that reduplication does not occur in deviant child phonology needs to be further investigated.

13. Stopping. The use of stops for fricatives and affricates was considered by Weiner. Examples of stopping include /tʌn/ for *sun* and /dæm/ for *jam*. Substitution of homorganic stops for fricatives and affricates is reported as developmentally normal (Crocker, 1969; Van Riper & Irwin, 1958). These are described as being most frequently a change in one specification of a feature (Cairns & Williams, 1972; Van Riper & Irwin, 1958). Common substitutions include t/s, d/z, p/f, t/tʃ, and d/dʒ. Stopping in the speech of phonologically deviant children may change from the target by several feature specifications.

14. Vocalization. This is the use of a vowel (usually /ʊ/, /ə/, /ɐ/, or /o/) to replace a syllabic (/r̩/, /l̩/, /m̩/, or /n̩/). Common examples are /faðʊ/ for *father* and /bado/ for *bottle*. Syllabics are usually acquired by age 4 (Shriberg & Kwiatkowski, 1980).

15. Weak syllable deletion. Another major phonological process is that of *weak syllable deletion*. The use of this process results in omission of unstressed syllables in multisyllabic words (e.g., /tɛfon/ for *telephone* and /dʒæməz/ for *pajamas*). Ingram (1976, p. 31) reported that this process does not exist in the speech of normally developing

children beyond age 4. It is a normal phonological process, and its persistence beyond age 4 may be a symptom of phonological deviancy. Weak syllable deletion will probably not be an early indicator of phonological disorders.

16. Idiosyncratic processes. A final category is that of *idiosyncratic processes*. These were described by several investigators (Ingram, 1976; Lund & Duchan, 1978; Moskowitz, 1980) as processes which are not common in either normal or deviant phonological development. They seem to be individual simplification processes. Lund and Duchan described these as structures which do not correspond to the adult configuration. They cited examples from Waterson (1971) such as /ŋe:ŋe/ for *finger* and /ŋaŋo/ for *Randall*.

Ingram (1976, p. 116) listed several idiosyncratic phonological processes (including *nasal preference*) noted in the speech of phonologically deviant children. He felt that lisping and tetism (substitution of /t/ for /f/) are never found in normal phonological development. He considered the use of a lateral fricative for /s/ as idiosyncratic. Fricative preference, discussed above as retention of /s/ in /s/-clusters, is found infrequently. Ingram also mentioned the tendency to overuse articulation which has been developed. An example of this would be /da'dada'da/ for *happy birthday*.

Conclusions

In summary, there appear to be processes which are reportedly used in both normal and/or deviant child phonology. When these processes normally drop out as the child progresses toward adult speech is not clear at this time. Processes specific to disordered phonological development are also not clearly identified.

According to Shriberg and Kwiatkowski, all phonological processes disappear sometime between age 1:6 and 4:0, with a few residual applications of processes beyond age 4:0 for some children. They present a fairly comprehensive sequence of phonological acquisition for normal development based upon cross-sectional data.

We may be able to use phonological process analysis to distinguish between subgroups of articulatorily deviant children. This might result in earlier identification of children with underlying global language deficits. Intervention strategies for those children would then reflect the interaction between language and articulation. Children with deviant phonological systems may use a larger number of processes simultaneously when compared with their normal peers. The sequence of phonological process production may differ from normals, and the processes themselves may differ. Once we more fully understand process usage in normal development, we may be able to identify subgroups of articulatorily impaired children whose treatment programs may differ as a result. A longitudinal study of a relatively large number of normal and disordered children is necessary to answer some of the questions raised here. In addition, the precise relationship between phonology and other aspects of linguistic development needs to be investigated further.

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The Identification of Vowel Errors Using Traditional Articulation or Phonological Process Test Stimuli

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The stimulus items from five commonly used assessment tools were examined to determine the number of occurrences of each English vowel and diphthong in a variety of contexts. Results indicated that the overall number of occurrences varied greatly from vowel to vowel and from test to test. In addition, the distribution of vowels across contexts was not balanced in any of the tests examined. The suitability of such stimuli for analyzing vowel errors is discussed in light of these results. Suggestions are provided for supplementing tests with additional stimulus words in order to obtain an adequate sample for vowel analysis. The suggested procedures are illustrated with data from one phonologically disordered client exhibiting vowel errors.

KEY WORDS: vowels, assessment, phonological disorders

Although the majority of children with phonological disorders have problems primarily with consonant segments, some of these also have difficulty with vowel segments (e.g., Hargrove, 1982; Khan, 1988; Pollock & Swanson, 1986). When vowel errors are suspected, clinicians need a set of procedures for systematically analyzing these errors. The present paper will review existing procedures for the assessment of vowel errors, propose several factors that should be considered in an analysis, and examine the suitability of existing tests for obtaining adequate samples for vowel analysis. Next, suggestions will be provided for supplementing existing stimulus sets. Data from one client will be used to illustrate vowel errors that might not have been identified using only the words from an existing stimulus list.

VOWEL ASSESSMENT WITH EXISTING PROCEDURES

Existing procedures for the assessment of vowels are extremely limited. Early studies concerning the age of mastery of speech sounds (e.g., Templin, 1957; Wellman, Case, Mengert, & Bradbury, 1931) had suggested that vowels were mastered early and were rarely misarticulated. As a result, the majority of assessment instruments were designed to focus on consonant sounds, often ignoring vowels altogether.

Some, but not all, traditional articulation tests include stimulus items for assessing English vowels (e.g., Arizona Articulation Proficiency Scale: Revised (AAPS-R) (Fudala, 1974), The Fisher-Logemann Test of Articulation Competence (F-L) (Fisher & Logemann, 1971), Photo Articulation Test (PAT) (Pendergast, Dickey, Selmar, & Soder, 1969), Templin-Darley Tests of Articulation (TDTA) (Templin & Darley, 1969)). However, these tests typically provide only one opportunity for production of each vowel sound. In addition, errors are not further analyzed to determine possible patterns of errors. The one exception is the F-L, which organizes error phonemes according to the dimensions of vowel height and backness.

Phonological process analysis procedures (e.g., Phonological Process Analysis (PPA) (Weiner, 1979), Khan-Lewis Phonological Analysis (KLPA) for the Goldman-Fristoe Test of Articulation (Khan & Lewis, 1986), Natural Process Analysis (NPA) (Shriberg & Kwiatkowski, 1980), The Assessment of Phonological Processes-Revised (APP-R) (Hodson, 1986)) also were not designed to assess vowel errors. Most (including the PPA and NPA) do not address vowels at all. The APP-R includes an error pattern called "Vowel Deviations," but it is not among the 10 basic patterns used to determine the phonological deviancy score, and vowel errors are not further categorized or analyzed for patterns. In sum, although a few articulation tests and phonological process analyses acknowledge the possibility of vowel errors, they do not provide a thorough analysis of error patterns or provide sufficient data to plan remediation goals and strategies.

FACTORS TO CONSIDER IN VOWEL ASSESSMENT

In a thorough analysis of vowel errors, several factors should be considered. The client should be provided with multiple opportunities to produce each vowel, ide-

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ally in a variety of different contexts. These contexts might include both monosyllabic and multisyllabic words and stressed and unstressed syllables. The inclusion of monosyllabic and multisyllabic contexts provides a method of determining the effect of word complexity on vowel production. It is well known that increases in structural complexity often lead to decreases in phonetic accuracy of consonant segments (e.g., Panagos, 1982). Therefore, one might also reasonably assume that word complexity could affect the accuracy of vowel production. Differences in vowel accuracy might also be anticipated depending upon whether the vowel occurs in a stressed or an unstressed syllable. Again, studies of consonant articulation have shown that phonetic accuracy is greater in stressed than in unstressed syllables (e.g., Klein, 1981). An additional consideration with vowel articulation is the fact that children often have difficulty with the reduction of duration and vowel quality necessary for vowel production in unstressed syllables (e.g., Allen & Hawkins, 1980).

The influence of adjacent consonants may also play an important role in vowel articulation (e.g., Kent, 1982). Ideally, vowels should be assessed with a variety of adjacent preceding and following consonants to enable the clinician to determine the possible effect of such contexts on vowel production. However, the extensive use of anticipatory coarticulation in English (e.g., Mackay, 1987) indicates that we might want to focus our attention primarily on the influence of the consonants which follow vowels. For vowels which occur in open syllables in English (the tense vowels, diphthongs, and rhotic vowels and diphthongs), the open syllable context provides an opportunity to assess production without the influence of any closing consonant. When vowels are assessed in closed syllables, however, it would be best to provide more than one consonantal context.

When assessing vowels, it is also necessary to set limits for the range of responses that will be considered correct (or acceptable). Although they may differ from the anticipated "correct" response, minor differences in pronunciation (e.g., [æ°] for /æ/; [oi] for /ɔɪ/) should not be considered errors. Limits should also be consistent with the local dialect or dialect spoken in the client's home. For example, the production of [ɛɪ] for /ɛ/ in *egg* or for /æ/ in *hanger* is common in some midwestern dialects. If the client's dialect is unfamiliar to the examiner, questionable productions should be judged by several native speakers to determine whether the production in question is within acceptable limits.

SUITABILITY OF EXISTING STIMULUS LISTS

The stimuli from four frequently used articulation tests and one phonological process test were examined to determine whether transcriptions of the entire word responses to such tests would provide a sufficient sample of vowel sounds for analysis. The tests were: Goldman-Fristoe Test of Articulation (GFTA) (Goldman & Fristoe, 1986), Photo Articulation Test (PAT) (Pendergast et al., 1969), Arizona Articulation Proficiency Scale-Revised (AAPS-R) (Fudala, 1974), The Fisher-Logemann Test of Articulation Competence (F-L) (Fisher & Logemann, 1971), and The Assessment of Phonological Processes-Revised (APP-R) (Hodson, 1986). For each test, the number of occurrences of each American English vowel and diphthong were determined in four contexts: (a) monosyllabic open syllable (where permissible by English phonotactics) (b) monosyllabic closed syllable, (c) multisyllabic stressed syllable, and (d) multisyllabic unstressed syllable.

Table 1 shows the total number of opportunities for each vowel and diphthong in each test. The number of opportunities varies greatly from vowel to vowel and from

TABLE 1. Total number of occurrences of each vowel/diphthong in stimuli from each test.

Vowel/Diphthong	*PAT*	*AAPS-R*	*GFTA*	*F-L*	*APP-R*
/i/	7	4	2	7	4
/ɪ/	8	10	11	9	6
/eɪ/	13	5	1	7	5
/ɛ/	8	5	3	11	4
/æ/	18	5	8	10	8
/u/	6	1	1	4	6
/ʊ/	1	1	0	1	0
/oʊ/	3	5	3	8	8
/ɔ/	2	3	1	2	1
/ɑ/	2	1	0	5	3
/ʌ,ə/	15	9	14	16	9
/aɪ/	2	2	1	4	3
/aʊ/	2	3	1	2	3
/ɔɪ/	1	0	0	0	1
/ɝ,ɚ/	10	3	6	13	5
/ɪɚ/	0	1	0	0	0
/eɚ/	2	2	1	2	2
/ɔɚ/	2	2	0	0	2
/ɑɚ/	3	1	1	1	1

test to test. For example, the PAT includes 18 opportunities for /æ/ and only one each for /ʊ/ and /ɔɪ/. Only one opportunity for /eɪ/ is provided by the GFTA and 13 by the PAT. Notice that some of the tests that claim to assess vowels (the AAPS-R and the F-L) do not provide opportunities for producing the diphthong /ɔɪ/.

The stimulus words from the five tests are included in the appendix, organized according to target vowel across the four contexts. As expected, the distribution of vowels across contexts was not balanced in any of the tests examined. For example, in the GFTA, some vowels (e.g., /eɪ/, /aɪ/) were included only in monosyllabic words and others (e.g., /i/, /ɪ/) only in multisyllabic words. Nearly all monosyllabic contexts involved closed syllables (except /ɑɝ/ in *car*). Opportunities for producing vowels in multisyllabic words were not equally distributed among stressed and unstressed syllable contexts (e.g., /ɛ/ and /æ/ occurred only in stressed syllables and /u/ only in an unstressed syllable). Similar imbalances were found in the other tests.

The results of the distributional analyses suggest that none of the tests provides an adequate sample for analyzing vowel errors. Although there are no established rules for determining sample adequacy, some preliminary criteria can be suggested. For example, such a sample would include at least four opportunities for the production of each vowel. In addition to number of occurrences, the context in which the opportunities occur should be considered when determining sample adequacy. Using the distributional information from the appendix, Table 2 summarizes the number of vowels adequately represented by each test in a variety of contexts. As can be seen, very few (one to four) vowels were represented in all four contexts. These included /ɪ/, /u/, and /ʌ,ə/ for the PAT, /ɪ/ and /ʌ,ə/ for the AAPS-R, /ʌ,ə/ for the GFTA, /ɪ/ for the F-L, and /ɪ/, /æ/, /u/, and /ʌ,ə/ for the APP-R. There were relatively more vowels adequately represented in both mono- and multi-syllabic contexts (4 to 14) and stressed and unstressed syllable contexts (4 to 7) than there were represented in both open and closed syllable contexts (0 to 4).

Suggestions for Supplementing Existing Stimulus Lists

By using the distributional information from the charts in the appendix, clinicians should be able to select additional words to supplement the information obtained from existing stimuli. Vowels with fewer than four total opportunities for production or limited distribution across various contexts may need to be further tested. To use the *GFTA* as an example again, a clinician interested in a child's vowel production abilities would want to provide additional opportunities to produce /i/, /eɪ/, /ɛ/, /u/, /ʊ/, /oʊ/, /ɔ/, /ɑ/, /aɪ/, /aʊ/, /ɔɪ/, and the rhotic diphthongs. For vowels not adequately represented across different contexts (/ɪ/, /æ/, and /ɝ,ɚ/, further assessment is warranted to determine the influence of word complexity, stress, and syllable closure on vowel accuracy. Using the distributional charts in the appendix, supplemental words may be selected to provide opportunities for vowel production in those contexts not covered by existing words. Information regarding the influence of different adjacent consonants may also be useful in determining the most facilitating context for correct production.

In the following case example, vowel errors were first assessed using only the responses to the stimuli from the APP-R. Following that, supplemental words were selected to provide a more complete analysis, allowing for the identification of vowel error patterns.

ANALYSIS OF VOWEL ERRORS FOR LC

The subject, LC, was a phonologically disordered female child, 2 years, 11 months of age at the time of the evaluation. Receptive and expressive language and hearing sensitivity were within normal limits. Oral structure and function appeared adequate for speech production. LC's speech was largely unintelligible, due in part to her limited phonetic inventory and syllable structure repertoire. However, her speech was also characterized by numerous vowel errors, which were felt to affect her intelligibility significantly. For example, LC used the common consonantal phonological processes of stopping, prevocalic voicing, and final consonant deletion in her production of the words *fish*, *foot*, and *pig*. However, LC also changed the vowels in these words, resulting in the production [beɪ] for all three. Not only did this create extensive homonymy in her speech, but her productions bore little or no resemblance to the adult target forms, greatly hindering her intelligibility.

Single word responses to the APP-R were elicited with objects. All productions were phonetically transcribed by the author using broad (phonemic) symbols and diacritics as necessary. The initial live transcription was later supplemented by audiotape review. Approximately 40% of

TABLE 2. Number of vowels adequately represented by each test in various contexts.

Context	*PAT*	*AAPS-R*	*GFTA*	*F-L*	*APP-R*
All four contexts[a]	3	2	1	1	4
Both mono- and multi-syllabic contexts[a]	12	9	4	14	9
Both stressed and unstressed contexts[a]	6	5	1	7	7
Both open and closed syllables[b]	4	2	0	1	2

Note. [a]Total possible equals 19. [b]Total possible equals 14.

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the responses were independently transcribed by a second listener reviewing the audiotape. Interjudge reliability was 81% for identification of vowel segments and 98% for correct/incorrect vowel decisions.

Transcriptions (see Table 3) indicated the presence of several vowel errors. Table 4 shows the number of correct vowel productions, the total opportunities for producing each vowel, and the percent correct for each vowel. Error productions are also indicated. Using a cutoff of less than 80% correct to indicate an errored vowel, three non-rhotic vowels (/ɪ/, /ɛ/, /ʌ,ə/) and four rhotic vowels/diphthongs (/ɝ,ɚ/, /ɛ͡ɚ/, /ɔ͡ɚ/, /ɑ͡ɚ/) were identified. The overall percent of vowels correct (PVC) using the *APP-R* stimuli alone was 70% (82% for non-rhotic vowels and 0% for rhotic vowels).

Additional stimulus words were selected containing vowels that occurred fewer than four times in the APP-R stimuli. These included /ʊ/, /ɔ/, /ɑ/, /ɪ/, /a͡ʊ/, /ɔ͡ɪ/, and the rhotic diphthongs /ɪ͡ɚ/, /ɛ͡ɚ/, ɔ͡ɚ/, and /ɑ͡ɚ/. In addition, supplemental stimuli were selected for /i/, /e͡ɪ/, /ɛ/, /ʊ/, and the stressed rhotic vowel [ɝ]. These vowels had been unevenly distributed across different contexts (e.g., /i/ had occurred only in monosyllabic words; /ɛ/ had occurred only in stressed syllables of multisyllabic words). The supplemental words chosen and transcription of LC's productions are shown in Table 5.

Percent correct scores for each vowel were recalculated using the additional stimuli (see Table 6). Two additional non-rhotic vowels/diphthongs (/ʊ/ and /ɔ͡ɪ/) were identified as errored using the 80% cutoff, as was the rhotic diphthong /ɪ͡ɚ/. Neither /ʊ/ nor /ɪ͡ɚ/ had occurred at all in the APP-R stimuli, and /ɔ͡ɪ/ had occurred only once (but correctly). Thus, these errored vowels were missed in the analysis based on the APP-R responses alone. The overall percent of vowels correct was lowered to 60% (79% for non-rhotic vowels and 0% for rhotic vowels).

Identification of vowel error patterns. The above description of LC's vowel errors focused on individual (segmental) vowel errors. However, recent studies of vowel errors in phonologically disordered children have found that errors often fall into patterns affecting entire classes of vowels (Hargrove, 1982; Pollock & Keiser, in press; Pollock & Swanson, 1986). A list of several possible types of vowel error patterns and examples is included in Table 7. These patterns are divided into those which involve changes in features (e.g., Backing, where front vowels are produced further back; Tensing, where lax vowels are produced as tense vowels), changes in complexity (e.g., Diphthong Reduction, where a diphthong is reduced to a monophthong), and changes due to vowel harmony, (e.g., Height Vowel Harmony, where a low or mid vowel becomes high due to the influence of another high vowel in the word). This list may be modified as further research into vowel error patterns is conducted. For example, further research may uncover additional patterns not included in this list. Also, some children may also produce idiosyncratic vowel error patterns, as they do with consonants. Additionally, some of these patterns may be more common than others in the speech of phonologically disordered children (Pollock & Keiser, 1990).

TABLE 3. Transcriptions of LC's responses to APP-R stimuli.

	Gloss	*Transcription*		*Gloss*	*Transcription*
*1.	basket	[bæˀɛ͡ɪ]	26.	nose	[no͡ʊ]
2.	boats	[bo͡ʊt]	27.	page	[be͡ɪ]
3.	candle	[næˀl]	28.	plane	[me͡ɪ]
*4.	chair	[dɛ͡ʊ]	29.	queen	[wi]
5.	cowboy hat	[a͡ʊ ɔɪ ˀæ]	30.	rock	[rɑk]
6.	crayons	[ɛ͡ɪən]	*31.	Santa Claus	[næˀɛ͡ɪ ɔ]
7.	three	[wi]	32.	screwdriver	[dura͡ɪt]
8.	black	[bæ]	33.	shoe	[ju]
9.	green	[ni]	34.	slide	[ja͡ɪ]
10.	yellow	[jɛlo͡ʊ]	35.	smoke	[mo͡ʊ]
*11.	feather	[fɛˀɛ͡ɪ]	36.	snake	[ne͡ɪ]
*12.	fish	[bɛ͡ɪ]	37.	soap	[bo͡ʊp]
*13.	flower	[fa͡ʊ ɛ͡ɪ]	38.	spoon	[bu]
*14.	fork	[fɑ͡ʊ]	*39.	square	[bɛ͡ɪ]
*15.	glasses	[gæˀɛ͡ɪ]	*40.	star	[da͡ɪ]
16.	glove	[bʌ]	41.	string	[ɪŋ]
17.	gum	[mʌ]	*42.	sweater	[wɛhɛ͡ɪ]
*18.	hanger	[hɛ͡ɪɛ͡ɪ]	*43.	television	[bəˀɛ͡ɪˀɛ͡ɪ]
*19.	horse	[o͡ʊi]	44.	thumb	[ʌ]
20.	ice cubes	[a͡ɪju]	45.	toothbrush	[tuwʌ]
21.	jump rope	[mʌ wo͡ʊ]	46.	truck	[bʌ]
22.	leaf	[wi]	47.	vase	[we͡ɪ]
23.	mask	[mæ]	48.	watch	[wɑ]
24.	mouth	[ma͡ʊ]	49.	yoyo	[o͡ʊˀo͡ʊ]
*25.	music box	[mjuˀɛ͡ɪbɑ]	*50.	zipper	[ɛ͡ɪˀɛ͡ɪ]

Note. Asterisks indicate responses with vowel errors.

TABLE 4. LC's vowel productions using APP-R stimuli.

Vowel/ Diphthong	*Number Correct*	*Total Opportunities*	*Percent Correct*	*Error Productions*
/i/	4	4	100	
*/ɪ/	1	6	17	all [e͡ɪ]
/e͡ɪ/	5	5	100	
*/ɛ/	2	4	50	[e͡ɪ], del.
/æ/	7	8	88	[e͡ɪ]
/u/	6	6	100	
/ʊ/	—	0	—	
/o͡ʊ/	8	8	100	
/ɔ/	1	1	100	
/ɑ/	3	3	100	
*/ʌ,ə/	6	9	67	all [e͡ɪ]
/a͡ɪ/	3	3	100	
/a͡ʊ/	3	3	100	
/ɔ͡ɪ/	1	1	100	
Non-rhotic subtotal	50	61	82	
*/ɝ,ɚ/	0	5	0	all [e͡ɪ]
/ɪ͡ɚ/	—	0	—	
*/ɛ͡ɚ/	0	2	0	both [e͡ɪ]
*/ɔ͡ɚ/	0	2	0	both [ʊ̃]
*/ɑ͡ɚ/	0	1	0	[a͡ʊ]
Rhotic subtotal	0	10	0	
Total	50	71	70	

Note. Asterisks indicate errored sounds.

The vowel errors produced by LC fell into two basic patterns. The first pattern appeared to be an idiosyncratic substitution of [e͡ɪ] for lax vowels. This pattern affected all of the targeted lax vowels but to varying degrees (/ɪ/ - 5/6; /ɛ/ - 2/8; /æ/ - 1/8; /ʊ/ - 2/4; /ʌ,ə/ - 3/9; /ɝ,ɚ/ - 8/8). Initial inspection of the APP-R stimuli alone had identified this pattern. However, the pattern appeared to occur primarily in unstressed syllables (e.g., for /ɪ/ in *basket* or *music box*) or in multisyllabic target words containing a final unstressed schwar (e.g., for /ɛ/ in *sweater* or /æ/ in *hanger*). Later inspection of the supplemental words, however, indicated that the pattern also affected several of the vowels (e.g., /ɛ/, /ʊ/, and /ɝ/) in stressed syllables of monosyllabic or multisyllabic target words. The substitution of [e͡ɪ] was also observed for all targeted /ɪ͡ɚ/ and /ɛ͡ɚ/ diphthongs, where the first element was a lax vowel. Interestingly, the pattern did not affect the other rhotic diphthongs, /ɔ͡ɚ/ and /ɑ͡ɚ/, where the first element was tense. Again, although the substitution of [eɪ] for /ɛ͡ɚ/ was observed twice in the APP-R stimuli, the application of the pattern to all rhotic diphthongs with lax first elements (and in all structural contexts) was not clear until the addition of the supplemental words.

LC's second pattern affected the non-rhotic diphthong /ɔ͡ɪ/ and the rhotic diphthongs /ɔ͡ɚ/ and /ɑ͡ɚ/. For these diphthongs, the first element was produced correctly or approximately correctly, while the second element was either deleted or replaced by a back round vowel [ʊ] or [o]. Although this pattern was also observed to some extent in the *APP-R* stimulus words, the limited number of opportunities (one or two) for production of these vowels precluded the discovery of a consistent pattern.

TABLE 5. Supplemental stimuli and transcriptions for LC.

Vowel/Diphthong	*Stimulus Word*	*Transcription*
/i/	zebra	[ðiwə]
	cookie	[dudi]
/e͡ɪ/	gray	[we͡ɪ]
	toothpaste	[tube͡ɪ]
/ɛ/	red	[wɛ]
	*pen	[me͡ɪ]
	nest	[nɛ]
	bunkbed	[bʌbɛə]
/ʊ/	book	[bʊi]
	*foot	[be͡ɪ]
	*cookie	[dʊdi]
	*football	[we͡ɪbɔ]
/o͡ʊ/	bow	[bo͡ʊ]
/ɔ/	saw	[nɔ]
	dog	[dɔ]
	water	[wɔe͡ɪ]
	football	[we͡ɪbɔ]
/ɑ/	pocket	[pɑʔe͡ɪ]
/a͡ɪ/	pie	[pa͡ɪ]
/a͡ʊ/	cow	[da͡ʊ]
/ɔ͡ɪ/	*boy	[bo͡ʊ]
	*oink	[o͡ʊ]
	*noisy	[no͡ʊ]
/ɝ/	*fur	[be͡ɪ]
	*church	[de͡ɪ]
	*turtle	[de͡ɪo]
/ɪ͡ɚ/	*ear	[e͡ɪ]
	*beard	[be͡ɪ]
	*earring	[e͡ɪi]
	*reindeer	[we͡ɪnde͡ɪ]
/ɛ͡ɚ/	*stairs	[de͡ɪ]
	*carrot	[de͡ɪʔe͡ɪ]
	*strawberry	[wɔbe͡ɪbi]
/ɔ͡ɚ/	*four	[wɔ͡ʊ]
	*door	[do͡ʊ]
	*quarter	[dɔe͡ɪ]
/a͡ɚ/	*heart	[ho͡ʊ]
	*farmer	[fɔme͡ɪ]
	*pop-tart	[pɑpdo͡ʊ]

Note. Asterisks indicate responses with vowel errors.

Thus, both the extent (specific phonemes affected) and consistency of LC's patterns became clearer with the additional stimulus words.

SUMMARY

Although vowel analysis is not necessary for all clients with phonological disorders, when vowel errors are observed (or suspected) clinicians need a set of procedures to follow for identifying error phonemes and patterns of errors. When looking for an efficient method of analyzing vowel errors in children, clinicians may choose to transcribe whole-word responses to the stimuli from commonly used articulation or phonological process tests. However, as pointed out in the present study, the existing stimuli do not provide sufficient opportunities for production of each vowel in a variety of contexts. Suggestions have been provided for eliciting additional words containing vowels in contexts not covered by existing stimuli. The appendix provides the stimulus words from five commonly used tests organized by

TABLE 6. LC's vowel productions using APP-R and supplemental stimuli.

Vowel/ Diphthong	*Number Correct*	*Total Opportunities*	*Percent Correct*	*Error Productions*
/i/	6	6	100	
*/ɪ/	1	6	17	all [e͞ɪ]
/e͞ɪ/	7	7	100	
*/ɛ/	5	8	63	[e͞ɪ], del.
/æ/	7	8	88	[e͞ɪ]
/u/	6	6	100	
**/ʊ/	1	4	25	[e͞ɪ], [u]
/o͞ʊ/	9	9	100	
/ɔ/	5	5	100	
/a/	4	4	100	
*/ʌ,ə/	6	9	67	all [e͞ɪ]
/a͞ɪ/	4	4	100	
/a͞ʊ/	4	4	100	
**/ɔ͞ɪ/	1	4	25	all [o͞ʊ]
Non-rhotic subtotal	66	84	79	
*/ɝ,ɚ/	0	8	0	all [e͞ɪ]
**/ɪɚ/	0	4	0	all [e͞ɪ]
*/ɛɚ/	0	5	0	all [e͞ɪ]
*/ɔɚ/	0	5	0	[o͞ʊ], [ɔ͞ʊ], [ɔ]
*/a͞ɚ/	0	4	0	[a͞ʊ], [a͞o], [ɔ]
Rhotic subtotal	0	26	0	
Total	66	110	60	

Note. Asterisks indicate errored sounds. Double asterisks indicate errored sounds not identified with APP-R stimuli alone.

target vowel/diphthong phoneme across four contexts to assist clinicians in selecting supplemental words.

Further research is obviously needed in the area of vowel disorders in children. It is not known to what extent some patterns of vowel errors are more common than others, nor how successfully such errors can be remediated. The interaction between vowel errors and consonant errors has also not been investigated. Although eventually more thorough procedures for the analysis of vowel error patterns must be developed and validated, it is hoped that clinicians will find the suggestions presented in this paper useful.

TABLE 7. Types of vowel error patterns.

Error Pattern	*Example*
Feature Changes:	
Backing (Bk)	/kæt/ → [kɑt]
Fronting (Fr)	/rɑk/ → [ræk]
Lowering (Lo)	/pɛn/ → [pæn]
Raising (Ra)	/kæt/ → [kɛt]
Centralization (Cn)	/ke͞ik/ → [kʌk]
Tensing (Tn)	/hɪt/ → [hit]
Laxing (Lx)	/fit/ → [fɪt]
Rounding (Ro)	/rɑk/ → [rɔk]
Unrounding (UnR)	/sɔ/ → [sɑ]
Complexity Changes:	
Diphthongization (Dip)	/rɑk/ → [ra͞ik]
Diphthong Reduction (DR)	/na͞if/ → [nɑf]
Vowel Harmony:	
Complete Vowel Harmony (CVH)	/ɔfɪs/ → [ɔfɔs]
Frontness Vowel Harmony (FVH)	/kʊki/ → [kɪki]
Height Vowel Harmony (HVH)	/himæn/ → [himɪn]
Tenseness Vowel Harmony (TVH)	/kʊki/ → [kuki]
Rounding Vowel Harmony (RVH)	/sno͞umæn/ → [snɑmæn]

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APPENDIX

Distribution of vowels and diphthongs across four contexts in five commonly used articulation and phonological process tests

GOLDMAN-FRISTOE TEST OF ARTICULATION (GFTA)

VOWEL or DIPHTHONG	MONOSYLLABIC		MULTISYLLABIC		TOTAL # OCCUR.
	OPEN SYLL.	CLOSED SYLL.	STRESSED	UNSTRESSED	
ɪ			sleeping	Christmas tree	2
I			window chicken zipper scissors fishing finger Christmas tree	rabbit jumping sleeping fishing	11
e͡ɪ		plane			1
ɛ			telephone pencils feather		3
æ		lamp flag	wagon vacuum matches rabbit bathtub Santa Claus		8
ʊ				vacuum	1
U					0
o͡ʊ		stove		window telephone	3
ɔ				Santa Claus	1
ɑ					0
ʌə		gun duck thumb drum brush	shovel jumping	bathtub matches carrot pajamas telephone Santa Claus Christmas tree	14
a͡ɪ		knife			1
a͡ʊ		house			1
ɔ͡ɪ					0
ɜə		church squirrel		zipper scissors feather finger	6
ɪə					0
ɛə			carrot		1
ɔə					0
ɑə	car				1

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FISHER-LOGEMANN
(F-L)

VOWEL or DIPHTHONG	MONOSYLLABIC		MULTISYLLABIC		TOTAL # OCCUR.
	OPEN SYLL.	CLOSED SYLL.	STRESSED	UNSTRESSED	
I		leaf seal wheel	zebra	baby pennies behind	7
ɪ		pin bib this ring	whistle finger scissors dishes	television	9
eɪ		tail cage rain	paper baby pages	toothache	7
ɛ		bed pen egg vest	elephant television feather letter pennies yellow measuring cup		11
æ		nan hand that	hammer wagon hanger ladder glasses matches valentine		10
u	shoe	smooth	toothache balloons		4
ʊ		book			1
oʊ		soap coat boat nose toes	yoyo	yoyo yellow	8
ɔ		dog	water		2
ɑ		box top watch	rocket garage		5
ʌə		bus thumb jump drum brush		measuring cup elephant matches television balloons glasses rocket zebra dishes pages carrot	16
aɪ		knife five	behind	valentine	4
aʊ		mouth	flower		2
ɔɪ					0
ɜə		girl		paper water flower hammer finger feather letter ladder hanger scissors garage measuring cup	13
ɪə					0
ɛə	chair		carrot		2
ɔə					0
ɑə	car				1

ASSESSMENT OF PHONOLOGICAL PROCESSES-REVISED
(APP-R)

VOWEL or DIPHTHONG	MONOSYLLABIC		MULTISYLLABIC		TOTAL # OCCUR.
	OPEN SYLL.	CLOSED SYLL.	STRESSED	UNSTRESSED	
i	three	green leaf queen			4
ɪ		fish string	zipper	basket music box television	6
e͡ɪ		plane page snake vase	crayons		5
ɛ			yellow feather sweater television		4
æ		black mask	basket candle glasses hanger Santa Claus	cowboy hat	8
u	shoe	spoon	music box screwdriver toothbrush	ice cubes	6
ʊ					0
o͡ʊ		boats nose smoke soap	yoyo	yoyo yellow jumprope	8
ɔ				Santa Claus	1
ɑ		rock watch		music box	3
ʌə		glove gum thumb truck	jumprope	toothbrush glasses television Santa Claus	9
a͡ɪ		slide	ice cubes	screwdriver	3
a͡ʊ		mouth	flower cowboy hat		3
ɔ͡ɪ				cowboy hat	1
ɜə				feather flower hanger sweater zipper	5
ɪə					0
ɛə	chair square				2
ɔə		fork horse			2
ɑə	star				1

PHOTO ARTICULATION TEST
(PAT)

VOWEL or DIPHTHONG	MONOSYLLABIC		MULTISYLLABIC		TOTAL # OCCUR.
	OPEN SYLL.	CLOSED SYLL.	STRESSED	UNSTRESSED	
i		keys teeth	TV	TV baby radio monkey	7
ɪ		fish this witch swing	zipper scissors whistle	sandwich	8
eɪ		skates nails train beige cake bathe	station angels table baby radio potatoes crayons		13
ɛ		bed bell egg yes	pencil elephant feathers measure		8
æ		hat can lamp flag cat that	matches sandwich ladder bananas crackers wagon thank you vacuum apples bathtub hammer hanger		18
u	shoe	spoon	toothbrush balloons	thank you vacuum	6
ʊ		book			1
oʊ		comb		radio potatoes	3
ɔ	saw	dog			2
ɑ		blocks clock			2
ʌə		cup gun glove thumb brush	monkey	bathtub matches potatoes bananas balloons elephant carrots toothbrush	15
aɪ	pie	knife			2
aʊ		house	flowers		2
ɔɪ	boy				1
ɝ		bird		measure zipper scissors ladder crackers hammer flowers feather hangers	10
ɪə					0
ɛə	chair		carrots		2
ɔə		fork	orange		2
ɑə	car	star jars			3

ARIZONA ARTICULATION PROFICIENCY SCALE - REVISED
(AAPS-R)

VOWEL or DIPHTHONG	MONOSYLLABIC		MULTISYLLABIC		TOTAL # OCCUR.
	OPEN SYLL.	CLOSED SYLL.	STRESSED	UNSTRESSED	
i	tree	green		monkey baby	4
I		pig ring fish this	swinging zipper whistle	swinging television jumping	10
eɪ		cake train plane	baby table		5
ɛ		red steps nest	yellow television		5
æ		cat that	wagon ladder bathtub		5
u	shoe				1
ʊ		books			1
oʊ		comb cold stove nose		yellow	5
ɔ		dog ball doll			3
ɑ		watch			1
ʌə		gun cup sun thumb	monkey jumping	bathtub television carrots	9
aɪ		knife nine			2
aʊ	cow	house mouth			3
ɔɪ					0
ɝ		bird		zipper ladder	3
ɪə	ear				1
ɛə	chair		carrots		2
ɔə		fork horse			2
oə	car				1

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APPENDIX F
Sample Evaluation Team Reports

PROVO SCHOOL DISTRICT
Provo, Utah 84604

Sp.Ed.4b
Aug. 88

COMMUNICATIVE DISORDERS
Primary Classification
SUMMARY TEAM REPORT

Student:_____ School:_____ Date:_____

❑ Yes The multidisciplinary team finds the above named student eligible to receive special education services as per Utah State definitions of handicapping category, criteria, and appropriate evaluation procedures.

❑ No The multidisciplinary team has reviewed the evaluation results and finds there is no handicapping condition, and no special services are required at this time.

Primary Classification: _____

Can this student's educational needs be met without special education services? ❑Yes ❑ No

Are there educationally relevant medical findings? ❑ **Yes** *(Please Document)* ❑ No

_____

_____

Additional Team Comments: _____

_____

Team Signatures	Title	Date	Consent	*Dissent
_____	_____	_____	❑	❑
_____	_____	_____	❑	❑
_____	_____	_____	❑	❑
_____	_____	_____	❑	❑
_____	_____	_____	❑	❑
_____	_____	_____	❑	❑

* *A dissent requires a separate written statement*

COMMUNICATIVE DISORDERS
Evaluation Information

To be used for both primary and secondary classifications.

Student:_____ School:_____ Date:_____

This student exhibits a discrepancy between age appropriate communication skills and actual communication skills. ❑ Yes ❑ No If yes, supply appropriate information.

	Area(s) of Concern	Current Tests and Results
❑	Articulation	_____
		_____
❑	Receptive and Expressive Language	_____
		_____
❑	Fluency	_____
		_____
❑	Voice	_____
		_____
❑	Hearing	_____
		_____
❑	Other_____	_____
		_____

Salt Lake City School District
Special Education Services
Prior Notice for Classification/IEP

To the parents of_____ Date:_____

On behalf of the Special Education Multidisciplinary Team we are providing you with this notice. The purpose of this notice is to inform you that we are planning to implement the following:

☐ Determine the student is not eligible for special education services
☐ Determine the student is eligible for special education services
☐ Change in classification for eligibility for special education services
☐ Maintain current classification
A COPY OF THE TEAM REPORT HAS BEEN PROVIDED.

☐ Develop an Individualized Education Program
☐ Review or revise the student's Individualized Education Program
☐ Maintain current Individualized Education Program
A COPY OF THE INDIVIDUALIZED EDUCATION PROGRAM (IEP) HAS BEEN PROVIDED.

1. This action(s) is being proposed because of:
☐ Academic Concerns ☐ Speech/Language Concerns ☐ Behavior Concerns ☐ Health Concerns
☐ Program Planning ☐ Continued Eligibility to receive special education services ☐ Other_____
_____

2. Prior to proposing this action(s), the following options were attempted and rejected:
☐ Student and Parent Conferences ☐ Academic Adjustments and tracking ☐ Schedule/Teacher Change
☐ School Disciplinary Actions ☐ Not Applicable ☐ Other_____
_____

3. The above listed options were rejected because:
☐ Concerns expressed in item 1 continue to exist ☐ Not Applicable ☐ Other_____
_____

4. The action(s) proposed above is based on the following evaluation procedures, tests, records, or reports:
☐ Teacher Observation and Records ☐ Achievement Test Scores ☐ Curriculum Based Assessment
☐ Multidisciplinary Team Report ☐ Not Applicable ☐ Other_____
_____

5. Other factors relevant to the action(s) proposed above are:
☐ Parent Concern ☐ Student Concern ☐ None ☐ Other_____
_____

A copy of your **Procedural Safeguards (Parent Rights)** is enclosed.

Please feel free to call_____ at _____ if you have any questions.
Name *Phone number*

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SALT LAKE CITY SCHOOL DISTRICT
Department of Special Education

EVALUATION SUMMARY

(Revision 1/90)

Student_____School_____Grade_____

Birthdate_____Age_____

1. Check areas evaluated. Indicate the results, source of data and date.

2. Attach supportive documentation such as test protocols and written reports. Note: protocols and reports must be signed and dated.

3. Include this Evaluation Summary with the Evaluation Team Report.

	BELOW AVGE	AVGE	ABOVE AVGE	SOURCE OF DATA	DATE
____Intellectual	_____	____	_____	_____	_____
____Math	_____	____	_____	_____	_____
____Reading	_____	____	_____	_____	_____
____Writing	_____	____	_____	_____	_____
____Oral Language	_____	____	_____	_____	_____
____Listening	_____	____	_____	_____	_____
____Articulation	_____	____	_____	_____	_____
____Externalizing Behavior	_____	____	_____	_____	_____
____Internalizing Behavior	_____	____	_____	_____	_____
____Adaptive Behavior	_____	____	_____	_____	_____
____Vision	_____	____	_____	_____	_____
____Hearing	_____	____	_____	_____	_____
____Physical	_____	____	_____	_____	_____
____Other	_____	____	_____	_____	_____

Student's environmental/cultural/economic background:_____

_____

Comments:_____

_____ _____ _____
(Signature) (Title) (Date)

SALT LAKE CITY SCHOOL DISTRICT
Department of Special Education

EVALUATION TEAM REPORT: COMMUNICATION DISORDERED - SPEECH/LANGUAGE IMPAIRED
[Revision 1/90]

Student_____School_____Grade_____

I. DEFINITION: A Communication Disorder is a speech or language impairment such as stuttering, impaired articulation, language delays, or voice impairment which adversely affects a student's educational performance.

II. EVALUATION TEAM [minimum]: The team must include a Sp. Ed. Teacher or Classroom Teacher and a Communication Disorder Specialist.

III. EVALUATION REQUIREMENTS: The Evaluation Summary must include the diagnosis and professional judgement of a Communication Disorder Specialist.

IV. EVALUATION RESULTS: See attached Evaluation Summary. Results indicate the existence of an impairment in either articulation, language, or voice which adversely affects the student's educational performance.

V. SUMMARY: Based on the information above, the conclusion of the evaluation team is that the student is eligible for Special Education services as Communication Disordered [Speech Impaired].

VI. TEAM SIGNATURES: This report is to be signed by the participants of the evaluation team (including the minimum participants listed above). NOTE: If a team member disagrees with this decision, his/her signature will appear on an attached, separate written report which must present his/her conclusions. The parent must either sign or be provided a copy(s) of the report(s).

Communication Disorder Specialist Date	Special Education teacher Date
Parent Date	Classroom Teacher Date
Team Member Date	Team member Date

Salt Lake City School District
Department of Special Education
Prior Notice and Consent for Placement

To the parents of _____ Date _____

NOTICE

On behalf of the multidisciplinary team, we are providing you with this notice. The purpose of this notice is to inform you that we are **proposing** the following action:

☐ Place your student for special education services in the option checked below:

☐ Change your child's placement for special education services to the option checked below:

PLACEMENT OPTIONS

☐ Regular education with Speech and Language services

☐ Regular education with resource services ☐ Special school: _____

☐ Self-contained resource (one half or more of the student's school day in resource)

1. The reason(s) we are planning this action is:

☐ Individual Education Plan (IEP) ☐ Least Restrictive Environment (LRE) ☐ Behavioral Data

☐ Multidisciplinary Team Report ☐ Achievement test scores ☐ Curriculum Based Assessment

☐ Teacher Observation and Records ☐ Not applicable ☐ Other _____

2. Prior to this proposal, the following options were considered and/or attempted and rejected:

OPTIONS	REASON OPTION WAS REJECTED
☐ Regular education, no services	_____
☐ Regular education with support services	_____
☐ Regular education with resource services	_____
☐ Self-contained resource (one half or more of the student's school day in resource)	_____
☐ Self-contained class	_____
☐ Special school	_____

3. The action proposed above is based upon the following evaluation procedures, tests, records, or reports:

☐ Teacher Observation and Records ☐ Achievement Test Scores ☐ Curriculum Based Assessment

☐ Multidisciplinary Team Report ☐ Not Applicable ☐ Other _____

CONSENT

☐ This is an initial placement. Your consent is needed.

We are asking that you decide on and check one of the choices below, then sign and return this form.

☐ I understand the enclosed information and **DO GIVE** permission for the placement.

☐ I understand the enclosed information and **DO NOT GIVE** permission for the placement.

_____ _____
Signature Date

☐ This is a change in placement to provide a more appropriate special education service pattern. Your consent is not required, and it is not necessary to return this form.

☐ No change in placement (service pattern) is recommended at this time. Your consent is not needed and it is not necessary to return this form.

A copy of your **Procedural Safeguards (Parent Rights)** is enclosed.

Please feel free to call _____ at _____ if you have any questions.

GRANITE SCHOOL DISTRICT
DEPARTMENT OF SPECIAL EDUCATION

COMMUNICATION DISORDERS
PRIMARY CLASSIFICATION
SUMMARY TEAM REPORT

Student _____ School _____

Age _____ Grade _____ Date _____ Student No. _____

Step 1. The student's communication disorder is primarily the result of: (check line)

Yes	No	
		Intellectual Handicap:
—	—	_____
		Hearing (acuity) date of last screening:
—	—	_____
		Physical handicap - basis for decision:
—	—	_____
		Emotional disturbance - basis for decision:
—	—	_____
—	—	Cultural, economic and environmental disadvantage - basis for decision: _____ _____

(see State Rules and Regulations for definitions)

(If any lines are checked, the student is not CD)

Step 2. Ability - as measured by a nonverbal instrument (Needed for placement in resource or self-contained)

Name of Test _____ Score _____ Date _____

Step 3. Communication Functioning Evaluation requires assessment of the referring problems)

a. Language Functioning

(2 Standardized Tests)

Name of Test _____ Score _____ Date _____

Name of Test _____ Score _____ Date _____

b. Sound Production

(2 Tests)

Name of Test _____ Score _____ Date _____

Speech Sample (% of intelligibility or consistency of error) _____

_____ Date _____

c. Voice _____

_____

d. Fluency _____

_____

Step 4. Difference between language functioning and intellectual functioning (Needed for placement in resource or self-contained)
(language functioning must be 1-1/2 standard deviations or 15 T score points or more below the student's intellectual functioning as measured by a nonverbal instrument.

_____ SD or T score difference between ability score and language functioning score.
(Needed for placement in resource or self-contained)

Step 5. Academic Achievement - (Needed for placement in resource or self-contained) score is 1-1/2 standard deviations or more below the student's intellectual functioning as measured by a nonverbal intellectual instrument.

Name of Test _____ Score _____ Date _____

SD difference between intellectual functioning and academic achievement _____.

Step 6. List results of prior interventions before placement in resource room is considered.

Intervention 1: Dates _____

Teacher _____

Results _____

_____

_____

Intervention 2: Dates _____

Teacher _____

Results _____

_____

_____

Step 7. A. The above data indicates that the student qualifies as Communication Disordered.

Yes _____ No _____

Resource help needed

Yes _____ No _____

Self-contained placement appropriate (Self-Contained screening completed)

Yes _____ No _____

B. There are educationally relevant medical findings.

Yes _____ No _____

C. If a student does not qualify on the basis of this form and the team decides placement is appropriate, a written report must be included listing reasons for placement and signed by team members.

D. If this report does not reflect a team member's conclusions, a separate signed statement presenting conclusions must be written and signed.

_____ _____

Parent's Signature/Date Agency Representative's Signature/Date

_____ _____

Teacher's Signature/Date Team Member's Signature/Date

_____ _____

Resource Teacher's Signature/Date Team Member's Signature/Date

_____

Speech - Language Pathologist's Signature/Date

Communication Disordered Written Report

Student:_____ Date:_____

Age:_____ Grade_____ School:_____

Communication Evaluation

Test:_____ Test:_____ Test:_____

Date:_____ Date:_____ Date:_____

Scores:_____ Scores:_____ Scores:_____

_____ _____ _____

_____ _____ _____

Test:_____ Test:_____ Test:_____

Date:_____ Date:_____ Date:_____

Scores:_____ Scores:_____ Scores:_____

_____ _____ _____

_____ _____ _____

Intellectual Evaluation

Test:_____ Date:_____

Scores:_____

_____

Comments:_____

_____

_____

_____

_____

APPENDIX G
Information on Traumatic Brain Injury

The head-injured student returns to school: Recognizing and treating deficits

Jean L. Blosser, EdD, CCC-SLP
Associate Professor of Speech-Language Pathology
Director, Speech and Hearing Center
Department of Communicative Disorders
University of Akron
Akron, Ohio

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Associate Professor of Speech-Language Pathology
Department of Communicative Disorders
University of Akron
Akron, Ohio

DUE TO GREAT improvements in overall treatment during the rehabilitation process, a significant number of head-injured students return to the educational setting following physical recuperation. Because of the complexity of the school setting and demands placed upon students at all levels, the reentering head-injured student is likely to encounter difficulties due to cognitive–communicative, physical, behavioral, and emotional problems, or a combination of all (Savage & Carter, 1984).

Since learning is a language-based process (Berlin, Blank, & Rose, 1980; Silliman, 1984; Wiig & Semel, 1980), the student's success upon return to school will depend on the ability to communicate effectively with others and perform appropriately on academic tasks and in classroom situations. When a head injury occurs, there is often a breakdown of the language processes, which can result in disorientation, disorganization of verbal activities, stimu-

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lus-bound responses, reduced capacity for learning, and reduced ability to process incoming information. Rosen and Gerring (1986) point out that difficulties with memory, judgment, pragmatic skills, and problem solving will cause the most significant readjustment problems for the head-injured student. These problems may be reflected in the student's expression and understanding of language within the context of the school setting. The head-injured student who attempts to return to school with deficits in these areas can be expected to experience some difficulties, especially with performance in academic subjects and relating to others. Such difficulties must be recognized and understood by teachers and clinicians who will be responsible for working with the student upon reentry. Teaching strategies that will enable the student to benefit maximally from the educational experience must be employed.

Several questions emerge concerning the impact of the head-injured student's cognitive–communicative deficits upon school performance and relationships with others within the school setting, and concerning the educator's response to these deficits:

- What makes the head-injured student different from students with other handicaps?
- How are the cognitive–communicative deficits that result from the injury reflected in the student's classroom behavior and academic performance?
- Which teaching strategies can be used to help the student achieve maximum potential in terms of the learning situation?
- Which resources can be employed to increase communication skills?
- Which teaching behaviors can be used while working with the head-injured?

The first question points to the need for educators to learn about head injury as distinct from other handicaps. Since consideration of this population's return to school is relatively recent, attention needs to be given to their uniquely different characteristics. The second, third, and fourth questions address the specific cognitive–communicative deficits of the head-injured, how they may be exhibited in the classroom, and how they may be modified. The fifth question concerns the strategy employed to assist the student to improve cognitive–communicative skills so that learning can reach its maximum potential.

THE EDUCATOR'S PERSPECTIVE REGARDING THE HEAD-INJURED STUDENT

Educators who have not encountered a head-injured student often have limited understanding of the behaviors exhibited or the problems that are likely to occur among this population. Every head injury is unique. As has been mentioned, the head-injured student may demonstrate any combination of communicative, cognitive, physical, perceptual, behavioral, social, or emotional impairments. While several other handicapping conditions also result in deficits in these areas, the combination of deficits found in head-injured students cannot be as easily categorized and defined as is the case with other handicaps. One cannot generalize that

most students with head injuries will behave in a similar manner. Individual differences among head-injured students will require a specific orientation for each.

The extent and variety of behaviors that each returning student exhibits must be taken into consideration when planning a reentry into the school setting. Educators need to be sensitized to the fact that the returning student may exhibit a number of disabilities, ranging from severe to mild, in several skill areas. The disabilities may lack consistency, and it will be difficult for those planning for the student to make generalizations based on performance in any one area.

Educators must be aware of the differences between this group and other handicapped groups in order to plan appropriately for class placement and participation. The head-injured student is not a "peer" of other handicapped students. The head-injured student did not begin his or her academic career as a handicapped student; the learning and communication handicaps were acquired. Listed below are some characteristics of the head-injured that make them different from individuals with other disabilities (Rosen & Gerring, 1986; Ylvisaker, 1985; Blosser & DePompei, 1987; DePompei & Blosser, 1987). The head-injured student typically has

- a sense of being normal that persists from the premorbid period
- discrepancies in ability levels
- a previous history of successful experiences in academic and social settings
- inconsistent patterns of performance
- variability and fluctuation in the recovery process, resulting in unpredictable and unexpected spurts of recovery
- more extreme problems with generalizing, integrating, or structuring information
- poor judgment and loss of emotional control, which cause the student to appear to be emotionally disturbed at times
- cognitive deficits that, although present in other handicaps, are more uneven in extent of damage and rate of recovery
- combinations of handicapping conditions that do not fall into usual categories of disabilities
- inappropriate behaviors that may be more exaggerated than the behaviors of students with other handicaps (e.g., greater impulsivity or distractibility)
- a learning style that requires the use of a variety of compensatory and adaptive strategies
- some intact high-level skills (making it difficult to understand why the student will have problems in performing lower-level tasks)
- a previously learned base of information that facilitates rapid relearning.

COGNITIVE-COMMUNICATIVE DEFICITS, CLASSROOM BEHAVIORS, AND TEACHING STRATEGIES

Depending on the site and extent of the injury, any number and combination of cognitive-communicative deficits may occur. These impairments will be demonstrated through the syntactic, semantic, phonologic, metalinguistic, and/or prag-

matic behaviors exhibited by the student. Some of the cognitive–communicative impairments that will most affect classroom performance are impaired attention, inefficient processing of information, inability to remember and/or recall information, poor judgment, disorganization, inability to concentrate, inability to complete executive functions, ineffective problem-solving skills, difficulty with processing abstract information, difficulty with learning new information or rules, and inappropriate social communication behaviors. Difficulty in these areas is often reflected in the student's expression and understanding of language. Communication may be characterized by language comprehension deficits, word-finding problems, reduced or inappropriate verbal output, and phonological errors, as well as by many other maladaptive behaviors.

The educator must develop an awareness of the student's cognitive–communicative strengths and weaknesses and respond to them in the classroom. Awareness can be developed by observing, analyzing, and interpreting the behaviors that the student exhibits during classroom activities and interactions. Delayed responses, inability to complete class assignments, and irregular compliance with the school routine may be indicative of the student's problems with processing information presented or handling school demands. Head-injured students may exhibit immature behavior in comparison with peers and make decisions that are potentially dangerous. They may fail to realize the social consequences of comments and actions and may not learn from peers' positive examples or negative reactions. Performance during classroom activities may be deceiving. Answers to the teacher's questions may initially appear to be correct; however, further examination may reveal that they are simplistic and concrete.

Daily concentration on the development of cognitive–communicative skills is essential for obtaining maximum progress. Teaching activities and behaviors must focus on improving the student's expressive and receptive language skills to permit better functioning in these important areas.

It is impossible to present an exhaustive and uniform list of deficits and classroom behaviors that can be applied to all head-injured students because of the influence of such variables as age, extent of injury, developmental level, and academic expectations at each grade. The table that concludes this article (see Appendix) illustrates (1) the various types of cognitive–communicative deficits that head-injured students might exhibit; (2) an example of a classroom behavior that would characterize each deficit; and (3) skills that the student will need to learn in order to improve or compensate for the deficit, along with teaching strategies that can facilitate this learning. Numbers appearing in the last column of the table refer to specific resources and materials, listed in the key below the table, that are appropriate for teaching targeted skills. It is hoped that the reader will use the appendical table as a frame of reference for understanding and working with the head-injured student, classroom teacher, and family in the school context.

TEACHER BEHAVIORS

It is helpful for educators to monitor their own communicative behavior when working with the head-injured student. DePompei and Blosser (1987, 1988) suggest several behaviors that can be incorporated into teaching and interaction with the head-injured. The educator will need to exercise judgment in order to determine those with which they are comfortable and those to which a student will most likely respond. The authors suggest accompanying verbal instructions with written instructions and vice versa; avoiding figurative language; using pauses to direct the student's attention and to allow time for processing; providing examples, pictures, and written cues to illustrate important information and concepts; repeating instructions; and redefining new words and terms. Teaching materials should be concrete, and realistic efforts should be made to maintain a structured organization and routine throughout the student's day and to alert him or her to anticipated changes.

The head-injured student can also be encouraged to use several strategies to increase the likelihood of more accurate performance in the learning situation (DePompei & Blosser, 1988). Not all of these strategies will prove to be appropriate for all students. Therefore, it is suggested that teachers and clinicians spend some time experimenting with each to see which strategies yield effective results and under what circumstances. The strategies are as follows:

- Encourage the student to *reread* directions more than once, exercising care to underline or note the important elements.
- Ask the student to *repeat instructions verbatim* before initiating an activity.
- Verify the student's comprehension of directions by requesting that they be written or *restated* in different words.
- Ask the student to *proofread* assignments carefully before submitting them, checking for completeness and accuracy.
- Ask for *verbalization of the correct versus incorrect* aspects of the work.
- Provide the student with opportunities to *repeat assignments* at another time to see if performance can be improved.
- Invite the student to *ask questions* to clarify statements made in class.

• • •

The head-injured population is still new to the educational setting. Since resulting deficits are varied, head-injured students cannot be treated as a homogeneous group but must instead be considered unique and treated individually. Cognitive–communicative handicaps will most likely interfere with successful performance in academic and social situations. Educators who are faced with planning for the reentry of and teaching of head-injured students must understand these deficits, their influence on students' behavior, and specific teaching strategies in order to help students to achieve their maximum potential within the educational setting.

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Appendix

Understanding and meeting the classroom needs of the head-injured student

Cognitive–communicative deficits	Sample classroom behaviors	Target skills and teaching strategies	Resources*
Demonstrated difference between communication in informal situations and formal situations such as the classroom.	Student answers teacher's questions at a surface level; when pressed to give reasons why or more detail, student is unable to provide more information.	*Providing adequate and substantial information* Direct the amount and type of information provided by the student. Encourage conversations to develop by giving instructions such as "Tell me more," "How many did you see?"	1, 6, 9, 25
Length of sentences and use of gestures may be normal, depth of communication is not.	While student appears to do quite well conversationally during social situations, classroom speaking lacks detail and depth.	Role play formal conversations in small groups. Direct the context of the student's responses with your own verbal models, cues, and leading questions.	
Communication is tangential (rambling).	Student's conversations tend to ramble, with no acknowledgment of the listener's interest or attention. Conversations may be topic-related but not exactly what is desired or germane to the discussion (e.g., when asked to name the major food groups, the student might begin a discussion about irrigation and growing crops).	*Topic maintenance* When the student begins to deviate from the topic, either provide a nonverbal cue or stop student from continuing. Teach the student to recognize nonverbal behaviors indicating lack of interest or desire to make a comment. (Work on this skill during private conversations with the student.) Teach beginning, middle, and end of stories. Stop the student's response and restate the original question, thus focusing the student's attention on the key issue.	13, 14
Word retrieval errors	Student's answers contain a high proportion of "this," "that," "those things," "whatchamacallits," etc.	*Word recall* Teach the student association skills and give definitions of words that he or she cannot recall.	15, 31

Cognitive–communicative deficits	Sample classroom behaviors	Target skills and teaching strategies	Resources*
	Student has difficulty providing answers on fill-in-the-blank tests.	Teach memory strategies (rehearsal, association, visualization, etc.).	
Verbal reasoning ability is reduced	In algebra class, the student may arrive at a correct answer but not be able to recite the steps followed to solve the problem.	*Problem solving* Teach inductive and deductive reasoning at appropriate age levels. *Reasoning* Privately (not during classroom situations or in front of peers), ask the student to explain answers and provide reasons.	5, 6, 10, 11, 31
Reduced ability to use abstractions in conversation (ambiguity, satire, inferences, drawing conclusions)	Student says things that classmates interpret as satirical, funny, or bizarre, although they were not so intended.	*Semantics* Teach the student common phrases used for satire, idioms, puns, etc.	5, 8, 13, 14
Delayed responses	When called upon to give an answer, the student will not answer immediately, appearing not to know the answer.	*Processing* Allow extra time for the student to discuss and explain. Avoid asking too many questions.	
Inability to describe events in appropriate detail and sequence	When student relates an experience, details are out of order, confused, or overlapping. Student cannot explain to another student the directions for playing a game in physical education class.	*Sequencing* Teach sequencing skills. Direct the context of the student's responses.	2, 3, 4, 5, 6, 12, 17, 18, 21, 22
Inadequate labeling or vocabulary to convey clear message	Student inappropriately labels tools in industrial arts class	*Semantics* Teach the student vocabulary associated with specific areas and classroom activities.	1, 6, 7, 9, 13, 17, 18, 23, 26, 31

Inability to determine the salient features of Wh-questions asked, information communicated, or assignments read	Student completes the wrong assignment (e.g., Teacher requested that the class complete problems 9–12; this student completes problems 1–12.).	*Organization* Encourage the student to write assignments in daily log.	17, 18, 24, 29, 31
Inability to determine the specific aspects of questions that need to be answered	When answering questions about the details of a history lesson, student gets the details confused. When asked specific questions, student's responses may be related but not exact. Student is unable to decipher long story problems.	*Finding the facts* Ask questions that will elicit the student's recall of important facts.	
Inability to organize information mentally, whether presented verbally or in written form	Student performs steps of a science project out of sequence, either fixating on one step or performing the most apparent step ("I knew the other steps, I just didn't need to do them.")	*Sequencing* Provide the student with written 3- and 4-step sequences to sort and organize. Do not allow the student to skip steps in a demonstration, even if he or she claims to know what to do.	4, 5, 10, 11, 15, 16
Inability to analyze and integrate information received	Student executes written directions in an unorganized and incomplete manner. Student goes to the gymnasium for a program when it was announced that it would be held in the auditorium.	*Direction following* Directions should be written in numbered steps rather than in paragraph form.	16, 19, 20
Tendency to be easily overloaded by high amounts of oral information presented during classroom instruction	Student appears to be daydreaming and nonresponsive while the teacher is lecturing or giving instructions	*Focusing attention* Use pauses when giving classroom instructions to allow for processing information. Use short, simple sentences when explaining information.	
Inability to read nonverbal cues of others	Student seems to be unaware that the teacher or other classmates do not want to be bothered while they are working.	*Social awareness* Use preestablished nonverbal cues to alert the student that behavior is inappropriate. Explain what was wrong with the behavior and what would have been appropriate.	27, 28, 30

Cognitive-communicative deficits	Sample classroom behaviors	Target skills and teaching strategies	Resources*
Difficulty comprehending spoken messages if presented in complex terms, rapidly, or at length	Student exhibits poor notetaking skills, unable to maintain the ability to sort out and note the important parts of the teacher's discussion.	*Comprehension* Use short, simple sentences, emphasize key points by voice variations, intonations, etc. Alert the student to the important topic being discussed.	1, 7, 9, 13
Difficulty understanding or recognizing a sequence of events	Even after being back to school for a while, student still gets lost in the daily routine of the school day (e.g., forgets that spelling follows math).	*Organization* Provide the student with a written schedule of daily school routine and a map of the rooms to be found.	
Difficulty maintaining attention, comprehension, and concentration	Student loses place while reading, is unable to relate information recently read; is easily distracted during reading assignments, is unable to complete silent reading and seatwork assignments at the same rate as classmates.	*Processing* Provide student with additional time to complete classroom and homework tasks. *Attention concentration* Because the student will most likely be processing at the best rate possible, provide with ample time for reading assignments. Reduce the amount of work to be read. Use summaries.	
Reduced ability to understand abstractness in others' language (ambiguity, satire, inferences, drawing conclusions, etc.)	Student misunderstands instructions and comments made; while classmates are responding to satire, jokes, a pun, etc., the student appears to be unaware of the source of humor.	*Semantics* Do not use these styles when presenting important information while teaching or trying to correct the student's behavior. Teach the student the meaning of idioms, figurative language, ambiguous phrases, etc.	5, 13, 14

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Key: Resources to supplement classroom materials

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Language and communication disorders following pediatric head injury

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SPEECH AND LANGUAGE outcome has rarely received special attention in published studies of children with closed head injury. Available data are generally embedded in descriptions of broader neurobehavioral outcome in children,[1–4] in descriptions of speech or language outcome in mixed populations of head-injured children and adults,[5] or, finally, in descriptions of acquired aphasia in children in whom the cause is not restricted to closed head injury.[6–8]

Until recently, the prevailing view in the literature on head injury in adults was that there was rarely any long-term impairment in verbal functioning after the injury in all but the most severe cases.[9–11] This view, combined with the classical view that children possess a remarkable ability to recover completely or nearly so from acquired aphasia[6,12]—particularly aphasia of traumatic origin[8,13]—creates the belief that any communication-related sequelae of head injury in children would not be serious. This belief is supported by the more recent work of Chadwick and colleagues,[2] who found that the impairment of verbal IQ was less severe and less persistent

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than the impairment of performance IQ following severe closed head injury in children.

This optimistic view of verbal outcome has not gone unchallenged. Sarno[14,15] documented verbal impairments (in most cases not classifiable under traditional aphasia categories) in 100% of head-injured adults admitted to a rehabilitation center. Teachers of severely head-injured children have ranked language problems among the most important deficits that interfere with successful school performance.[16] Furthermore, recent discussions of rehabilitation have focused considerable attention on the treatment of "nonaphasic" language disturbances in head-injured adults[17–19] and children.[20] The apparent conflict between the older and more recent views is at least partially resolved by the observation that linguistic impairments in a narrow sense—specific difficulties combining sounds into intelligible words, and words into grammatically correct sentences—are in fact quite rare and generally transient in head-injured children and adults, while more subtle and chronic deficits in naming and word retrieval, verbal organization beyond the sentence level, comprehension of rapidly presented or large amounts of verbal information, comprehension of verbal abstractions, efficient verbal learning, and effective conversation are common.

SPEECH AND LANGUAGE OUTCOME

Motor-speech disorders

Levin and co-workers[5] found posttraumatic mutism ("total abolition of speech not attributable to injury to the cranial nerves in a patient capable of both communicating through a nonspeech channel and comprehending at least simple oral commands"[5(p601)]) in approximately 3% of a series of 350 children and young adults with moderate-to-severe head injury. Within this group, they distinguished between those patients with focal basal ganglionic lesions and those without such lesions but with severe diffuse injury. Although the number of mute patients was small (nine), the authors tentatively concluded that mutism associated with basal ganglionic lesions carries a better prognosis for both speech and language recovery. Furthermore, this subcortical damage more commonly disrupted speech in children than in adults. 49

Ylvisaker and Hough[21] reviewed 50 consecutive pediatric head injury admissions to a rehabilitation facility (age range, 2–6 to 18–0 at the time of injury). On admission (median length of time after injury, 4 weeks), 16 (32%) of these severely head-injured children could not speak. On discharge (median length of time after injury, 23 weeks), 5 (10%) still could not speak, despite recovery in all but one case of receptive language sufficient to support at least simple communicative interaction. In a separate long-term follow-up of head-injured children who had received inpatient rehabilitation following their acute hospitalization, 8% of the children still could not speak at least 12 months after their injury. An additional 24% had conversationally detectable, but not functionally impairing, speech involvement.[16] These data suggest that in most cases of even severe head injury in children, the recovery of serviceable speech, often with intensive speech therapy, is a reasonable expectation.

Alajouanine and Lhermitte[6] suggest that acquired dysarthria in children has no specific features that distinguish it from dysarthria in adults. Articulatory imprecision, phonatory weakness, hypernasality, monopitch, and a slow rate of speech have been listed as the most frequently observed dysarthric symptoms following closed head injury in children.[22] It has also been tentatively suggested, based on clinical observations, that persistent dysarthria is more common in adolescents than in younger children, while apraxiclike disorders appear to be more common in

50 younger children than in adolescents. Less commonly observed symptoms include cluttering and an excessively rapid rate of speech.

Language disorders

Most severely head-injured children recover not only motor-speech function but also the surface features of the linguistic code, which together often create the impression of normal communicative functioning. This fact, combined with the frequent use of the Wechsler Intelligence Scale for Children (WISC–R) to assess language functioning, helps explain the relative neglect of verbal deficits following closed head injury. The verbal portion of the WISC–R is an inadequate indicator of language problems following closed head injury since it relies heavily on retrieval of information acquired before the injury and does not require rapid and efficient processing of verbal information within time limits.[23]

Data indicating the type and frequency of verbal deficits following head injury vary considerably with the assessment instruments used as well as the severity of injury and the length of time after the injury. There is some convergence, however, on the following observations. Expressive deficits predominate, both in childhood aphasia (regardless of the cause)[6,7] and in verbal disturbances following head injury. Impaired confrontation naming[2,4,16,23,24] and word retrieval[16,23,24] frequently head the list of specifically verbal symptoms. Expressive organization of ideas over several or more sentences, while rarely tested in follow-up studies, has been identified as a problem by teachers of head-injured children[16] and, based strictly on clinical experience, by rehabilitation professionals.[25] True agrammatism is rare in acquired childhood aphasia, regardless of the cause,[6] with verbal repetition measures infrequently depressed. In this respect, the typical verbal profile of children with closed head injury differs markedly from that of children with congenital language disorders. Disorders of written language have frequently been documented, with young children showing relatively greater impairment than adolescents,[6,7,23] presumably because of the later acquisition of writing skills.

The impact of expressive language deficits on academic functioning has been underscored by teachers of severely head-injured children. In a long-term (minimum of 12 months after the injury) outcome study of children who had received inpatient rehabilitation following their acute hospitalization, teachers of the children reported that expressive language impairments interfered most with classroom functioning, compared with 15 cognitive, academic, and psychosocial variables.[16] This ranking was in contrast to the finding that only 4 of the 27 children in the study had speech or language deficits that significantly interfered with functional verbal communication.

Comprehension deficits

Impairments of auditory comprehension of language have been less commonly identified in studies of head-injured children. Chadwick and colleagues[2] found no difference between head-injured subjects one year after their injury and normal controls on an abbreviated verbal scale of the WISC–R (Vocabulary, Similarities, and Digit Span Subtests). Levin and Eisenberg[4] found a slightly reduced incidence of comprehension deficits in children with predominantly mild injuries (11% impaired on the Token Test subtest of the Examination for Aphasia) relative to naming deficits (13% impaired on visual confrontation naming). Studies of acquired aphasia in children have emphasized the infrequency of comprehension impairments.[6,7,13] Van Dongen and Loonen[8] point out, however, that when com-

prehension deficits are present, the overall prognosis for recovery from aphasia is more guarded.

There are no descriptions in the literature of the pattern of language functioning and language learning over the years following severe closed head injury in children. The pervasiveness of disorders of memory and learning,[23] however, supports the speculation that many severely injured children would fail to maintain an adequate rate of acquisition of new concepts and corresponding vocabulary. Consistent with this speculation, the author has observed in many children systematically falling standard scores on the Peabody Picture Vocabulary Test over several years following severe head injury. Furthermore, although it is often suggested that children with closed head injuries can be expected to recover pretraumatically acquired information and vocabulary, in individual cases a progressive deficiency in the knowledge base relative to age or grade expectancy may functionally impair the child, particularly in an academic context.

The identification of language comprehension deficits following closed head injury depends heavily on the sensitivity of the assessment tools that are used. The ability to process and integrate increasingly large amounts of connected verbal information or rapidly presented verbal information has not been systematically studied, but because of the frequency of deficits in the general efficiency of information processing, is likely impaired following severe closed head injury. Deficits in this ability have frequently been observed by rehabilitation and special education professionals. Based on questionnaires submitted to teachers of severely head-injured children whose injury occurred at least one year earlier, 70% of the children were said to have a relatively precipitous deterioration in comprehension of spoken language as the amount to be processed increased, and 90% of the children were said to have a similarly sharp drop in reading comprehension as the amount to be read increased.[16] With respect to rate of processing, 60% of the children were said to require extra processing time or to respond in a delayed manner to language. On follow-up testing, most of these children experienced an increased difficulty processing Token Test commands when the rate of presentation was increased from 120 to 180 words per minute, with an average deterioration of 25%. The deterioration score did not correlate with verbal IQ on the WISC–R.

A difficulty with verbal abstractions (eg, metaphors, verbal absurdities, synonyms, antonyms) and higher level verbally mediated thinking (eg, detecting and clearly stating main ideas, drawing appropriate inferences, and interpreting complex events correctly) has been documented in head-injured adults[11,17] and children.[25] The most pervasive language deficit following pediatric closed head injury is in verbal learning with feedback,[4,16] with children and adolescents showing comparable impairment.[26] Levin and Eisenberg[4] suggest that the Selective Reminding Test,[27] which measures verbal learning over several trials with consistent feedback, is a good indicator of a child's readiness to cope with the learning demands of an academic setting.

The ability to maintain a smooth flow of conversation requires the convergence of cognitive, linguistic, and social skills that are often impaired following closed head injury. These include sustained attention to subtly shifting topics, accurate perception and interpretation of social cues, retention and ongoing integration of information already presented, organization of ideas and retrieval of words to accurately express those ideas, and active application of many rules of social appropriateness. Ineffective, disorganized, tangential, or socially inappropriate conversation is therefore commonly observed in severely head-injured children and adolescents.

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ASSESSMENT

Language assessment tools that are designed to measure a child's receptive and expressive facility with the surface linguistic code predictably fail to reveal more common verbal sequelae of closed head injury. These include deficits in the organized and efficient production of language, particularly under some form of stress; deficits in the comprehension of abstract language or significant amounts of language; deficits in the efficiency of verbal learning; and deficits in the appropriateness of conversation. Furthermore, even when appropriate test instruments are used, a purely formal assessment, unaccompanied by informal observation and diagnostic therapy, can easily generate false optimism regarding the recovery of a head-injured child. Conditions of formal testing may compensate for deficits in the areas of attention, concentration, endurance, task orientation, and self-initiated problem solving. Formal tests, moreover, rarely require the child to integrate the amounts of information expected in a school setting, to retain new information over significant periods of time, or to generalize newly acquired skills to novel contexts.

Given the limitations of formal tests and the wide variety of pathophysiological mechanisms in closed head injury, communication assessment is best conceived not as the administration of a fixed battery of tests, but rather as detective work guided by two sets of questions: those regarding the dimensions of verbal functioning most commonly impaired in closed head injury and those regarding the possible relationships between verbal and more general cognitive deficits.[28]

Questions about the language system

Receptive language: What is the patient's receptive vocabulary level? How is language comprehension affected by varied processing demands: increases in the length or complexity of utterance, the rate of verbal input, the amount of information to be integrated, the environmental interference, and conversational demands?

Expressive language: What is the patient's expressive vocabulary level (visual confrontation naming) and how does it compare with his or her receptive vocabulary? How are naming and word retrieval affected by varied forms of stress, eg, time demands in rapid visual naming tasks or controlled word fluency tasks, as well as the pressure of conversation or classroom recitation? How well can the patient organize information for efficient expression? Can the patient maintain appropriate, organized, and fluid conversation in unstructured situations?

Integrative language: How well organized is the semantic system in terms of categories, associations, sequential relationships, and part-whole relationships? Can the patient detect subtleties of meaning? Can the patient efficiently form new verbal concepts and flexibly adjust the conceptual scheme? Can the patient use language to engage in age-appropriate abstraction, problem solving, and reasoning?

Verbal memory: What is the level of immediate recall of unrelated as well as semantically connected material? Can the patient store and retrieve new information (semantic information? daily events?) over extended periods of time? Does the patient make effective use of feedback in verbal learning? Does the patient spontaneously use strategies to aid learning and retention? Does the patient benefit from strategy suggestions? Is learning enhanced by making memory a deliberate process versus learning as incidental to task completion? What variables are particularly related to memory efficiency: interest level? attention? perceptual modality? familiarity? inherent organization? context? personal importance? mnemonic strategies?

Questions about the relationship between verbal and cognitive deficits

A full understanding of verbal impairments following CHI most often requires careful consideration of the impact of cognitive problems on communicative functioning. Because relationships between verbal and cognitive deficits can vary from patient to patient, they must be tested with new hypotheses for each child. What follows is an illustration of the type of investigative thinking relevant to cognitive-language impairments and their impact on communicative functioning.

The discourse of many head-injured children and adolescents is characterized by rambling, disconnected, tangential, and at times, inappropriate utterances. The possible cognitive explanations for this phenomenon include the following:

- *Attention*: inability to focus and maintain attention on a given topic, to filter out irrelevant thoughts, to hold in mind both a unifying topic and a specific conversational contribution, or to flexibly shift attention as demanded by the conversational flow.
- *Perception*: inability to notice or "read" social cues or to interpret accurately a conversation partner's signals.
- *Memory*: inability to recall from moment to moment the information that has been exchanged or the topic of conversation.
- *Organizing processes*: a disorganized semantic system resulting in unusual associations, weak sequencing of ideas, or poor integration of details into main ideas.
- *Reasoning*: failure to see relationships among propositions or to draw appropriate inferences or analogies.
- *Knowledge base*: loss of knowledge of social rules that apply to conversational exchange; unexpectedly weak knowledge of the topic under discussion.
- *"Executive" system*: weak monitoring of behavior; uninhibited behavior; weak direction of behavior in relation to goals.
- *Functional-integrative performance*: adequate cognitive components that break down under the stress of interpersonal encounters, time pressure, a demanding context, or a lack of adequate environmental cues.

Classifying communication impairments as cognitive-language deficits is thus an invitation to systematically explore, within the context of diagnostic therapy, possible relationships between the communication symptom and every component of the cognitive mechanism that may be related to that symptom. The results of this exploration significantly influence treatment decisions.

TREATMENT

Treatment decisions do not flow automatically from the results of formal assessment. In addition to the factors suggested above, broad treatment plans are contingent on a child's age and developmental level, on the stage of cognitive recovery, on the identification of a communication deficit as verbal or cognitive, and, particularly in the case of adolescents, on the patient's goals.

Age and developmental level

In all areas of treatment, effective intervention assumes that selection of activities and materials is respectful of the patient's age and self-concept, despite his or her reduced verbal and general cognitive functioning. Decisions regarding forms of intervention, however, require careful consideration of developmental levels as well. For example, the major decision to teach a child deliberate strategies to compensate for residual impairments depends heavily on the child's metacognitive maturity (the ability to think about cognitive

54 and linguistic phenomena, to recognize deficits, and to appraise their effects), in addition to adequate attentional resources and self-directing abilities. In general, to acquire strategies that must be deliberately applied, children must have reached the metacognitive level of an upper grade school student. At earlier developmental levels, rehabilitation professionals may attempt to promote increased metacognitive and metalinguistic awareness. In addition, concrete verbal strategies, (eg, organized circumlocution to compensate for word retrieval difficulties) can be practiced by developmentally younger children with the goal of habit formation rather than deliberate strategy use.

Stage of cognitive recovery

With very severely injured children, the period of posttraumatic amnesia is not easily defined. In general, this stage of recovery is characterized by adequate alertness and a focus on external events, but additionally, disorientation ranging from mild to severe, significantly impaired recent memory, inefficient information processing, and disorganized or inappropriate behavior in the absence of adequate environmental cues. During posttraumatic amnesia, the intervention for cognitive and communicative deficits should focus on broad environmental structuring to reduce confusion (eg, consistency in schedule and staff, liberal use of orientation and memory cues, appropriately simplified communicative interactions) and a gradual and systematic increase in processing demands during structured activities (verbal or nonverbal) to enhance processing and organizational abilities, while always attempting to guarantee successful performance. Highly structured language activities appropriate for this stage of recovery include analyzing familiar verbal concepts using a consistent diagram to guide the analysis, and selectively listening for specific information in sentences or paragraphs with the goal of gradually increasing the amount of information that can be processed.[29] For preschoolers, structured play and manipulative activities with gradually increasing processing and organizational demands can be used to meet the same goals of reducing confusion and systematically enhancing information processing abilities.

After posttraumatic amnesia resolves, additional treatment options become available. Drills that target specific residual verbal symptoms not caused by an underlying cognitive disruption may be appropriate. Training in the use of deliberate compensatory strategies is indicated if the verbal deficit does not resolve spontaneously or cannot be remedied and the cognitive and metacognitive prerequisites for strategy acquisition are present. A major goal of treatment at this stage is to practice skills or strategies in functional activities and to promote their generalization to natural settings (eg, practicing requests for clarification of information or instructions in the classroom). Finally, children with significant cognitive-language impairments in the late stages of recovery may continue to need coordinated environmental compensations in order to function effectively. These can include appropriately modified expectations on the part of teachers and family members, a consistent routine, frequent repetition of information, a log book to aid orientation and memory, increased processing time or work time, guidance for accomplishing tasks in an organized manner, and reduced stress.

Relation between verbal and cognitive deficits

As discussed above, verbal deficits following closed head injury may be caused by one or more cognitive disruptions. Word retrieval problems, for example, may be but are certainly not necessarily related to attentional def-

icits, general organizational deficits, a reduced knowledge base, or weak executive direction of cognitive activity. If diagnostic therapy suggests that the verbal deficit is a symptom of a more general cognitive disruption, then attention to that cognitive process, using verbal or nonverbal activities (depending on the patient's strengths) may be indicated. A decision to teach the patient to compensate for the verbal deficit may be appropriate in either case.

Patients' goals

Young children are very accustomed to taking direction from adults, even when the purpose of the activity is not apparent. Adolescents, on the other hand, increasingly desire self-direction in their lives and resist activities that have no apparent relation to their goals. Following closed head injury, this developmentally natural phenomenon is dramatically compounded by an inability to perceive deficits caused by the injury or their functional implications. Consequently, treatment that is not consistent with the patient's self-selected goals is predictably ineffective. With adolescents and young adults, rehabilitation professionals can treat these "executive" issues in several ways: (1) deliberately targeting self-awareness of deficits as a treatment goal, using varied feedback techniques, including video therapy; (2) engaging patients in active problem solving in relation to their goals and deficits, so that selection of treatment plans or compensatory strategies becomes as much as possible the patient's responsibility; and (3) beginning and ending treatment sessions with discussions of goals. When appropriate, patients can be required to write in their journals the purpose of all treatment activities in relation to their goals. For many older adolescents, the primary goal of all of their therapies is to become effective coaches for themselves and accept the responsibility for identifying their own treatment needs.[30]

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Strategies for Helping Head-Injured Children Successfully Return to School

Roberta DePompei and Jean Blosser

Each year approximately 75,000 individuals sustain a closed head injury (CHI). The head injuries may be the result of motor vehicle accidents, falls, sports injuries, or abuse. It is estimated that as many as 18,000 of those injured are children. Often, head-injured children return to the educational setting following physical recuperation. The communication, physical, cognitive, emotional, and/or behavioral changes which have resulted from the head injury may interfere with successful re-entry into school. This article will present information that may be helpful in implementing the CHI student's successful return to school. Specific topics to be discussed include: types of deficits in CHI students, initiating the return to the educational setting, reasons for involvement of the speech-language pathologist in the re-entry process, suggestions for establishing effective networks between the rehabilitation setting (hospital/clinic) and the educational setting; and, specific recommendations for implementing the return.

Each year approximately 75,000 individuals sustain a closed head injury (CHI). The head injuries may be the result of motor vehicle accidents, falls, sports injuries, or abuse. In many cases, an overall global disorganization occurs as a result of the CHI. Changes in the head-injured individual's cognitive functioning can result in observable differences in communication, physical, motoric, emotional, and/or behavioral processes (Hagen, 1981).

Studies of recovery from CHI show that the mortality rate for children is lower than that for adults (Bruce, Schut, Bruno, Wood, & Sutton, 1978; Craft, 1972; Hendrick, Harwood-Hash, & Hudson, 1964). Levin, Benton, and Grossman (1982) report that accurate prevalence and incidence statistics for closed head injury in children are "unavailable because of the lack of a centralized system for case ascertainment." However, Kalsbeek, McLaurin, Harris, and Miller (1980) estimate that as many as 18,000 of those injured are children.

Because paramedic response time has decreased and emergency medical care in trauma centers has increased, the number of head injured who survive has also increased. Those who survive often require extensive services from a variety of rehabilitative professionals. Because overall treatment during the rehabilitation process has improved so greatly in recent years, a significant number of head

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injured children are prepared to return to the educational setting following physical recuperation.

Much of the literature on closed head injury addresses the severity of the injury and/or the recovery process as it relates to the patient, the family, and the professional. Ylvisaker (1985) and Rosen and Gerring (1986) are among the few authors who have discussed the implications for rehabilitation within the educational setting and education-related problems due to head injury.

This article will present information that may be helpful in implementing the CHI student's successful return to school. Specific topics to be discussed include: types of deficits in CHI students, initiating the return to the educational setting, reasons for involvement of the speech-language pathologist in the re-entry process, suggestions for establishing effective networks between the rehabilitation (hospital/clinic) setting and the educational setting, and specific recommendations for implementing the return.

Types of Deficits in CHI

The term *closed head injury* implies that the child has sustained a blow to the head which has caused diffuse rather than focal brain injury. Diffuse or generalized damage can occur anywhere within the brain and may cause unusual kinds of behavior and learning patterns in the student. Each CHI student who returns to school will present a unique combination of deficits. The educational team should be aware of the child's deficits and be prepared to plan for them. DePompei and Blosser (1986) have outlined the following deficit areas that can be present in the CHI student who re-enters school. These characteristics can occur singly or in combinations.

Physical:	Impairments can exist in mobility, strength, coordination, vision and/or hearing.
Communication:	Problems can occur in language, articulation, word-finding (anomia) reading, writing, computation, abstraction.
Cognitive:	Difficulties can be found with long- and short-term memory, thought processes, conceptual skills, problem solving.
Perceptual Motor:	Involvement can include visual neglect, visual field cuts, motor apraxia, motor speed, motor sequencing.
Behavior:	Problems can account for impulsivity, poor judgment, disinhibition, dependency, anger outbursts, denial, depression, emotional lability, apathy, lethargy, poor motivation.
Social:	Impairments can result in the CHI student not learning from peers, not generalizing from social situations, behaving like a much younger child, withdrawing, distracting in noisy surroundings and becoming lost even in familiar surroundings.

The worksheet in Figure 1 (Blosser & DePompei, 1985) has been found to be helpful in charting the characteristics of the CHI student. It would be most efficiently used if hospital personnel fill in the chart on dismissal and then educational staff rechart the behaviors at 3–4 month intervals.

Social, Educational and Language Behaviors
of the Closed Head Injured Client

Name _____ Parent's Name _____

Address _____ Phone _____ D.O.B. _____

School District _____ Last Grade Level _____

Diagnosis _____

Social Behaviors	Did not assess	Severe	Marked	Moderate	Mild	Normal
1. Withdrawn						
2. Ability to assume role in family						
3. Ability to be accepted by:						
peers						
family						
4. Appropriate social responses to:						
peers						
family						
therapist						
5. Ability to structure self in						
social activities						
6. Ability to learn from social						
experience						
7. Concern for others						
8. Self care skills						
9. Drug, alcohol reported use						
10. Turn taking skills						
Speech Behaviors						
1. Swallowing						
2. Oral movements						
3. Self-initiated speech						
4. Intelligibility						
5. Fluency						
6. Voice						
Language Behaviors						
Receptive						
1. Understands yes-no questions						
2. Follows directions						
3. Immediate recall						
4. Reads and comprehends appro-						
priate grade level sentences						
5. Reads and comprehends appro-						
priate grade level paragraphs						
6. Follows and comprehends						
conversational speech						

COMMENTS:

Emotional Behaviors	Did not assess	Severe	Marked	Moderate	Mild	Normal
1. Apathy						
2. Impulsiveness						
3. Irritability						
4. Aggressive						
5. Depression						
6. Emotional lability						
7. Silliness						
8. Anxiety						
9. Adequate self-image						
10. Denial of disability						
Educational Behaviors						
1. Disorientation						
2. Ability to abstract						
3. Memory deficits						
short term						
long term						
4. Ability to initiate						
5. Logical thinking						
6. Judgment						
7. Verbal perseveration						
8. Motor perseveration						
9. Attention span						
10. Distractibility						
11. Fatigability						
12. Confusion						
Language Behaviors						
Expressive						
1. Anomia (word finding)						
2. Ability to define						
3. Ability to use sentence						
4. Ability to use conversa-						
tional speech						
5. Ability to use humor						
6. Vocabulary usage						
7. Written sentences appro-						
priate to grade level						
8. Written paragraphs appro-						
priate to grade level						

Date _____ Hospital Therapist: _____

FIGURE 1. Worksheet for charting characteristics of the CHI student.

Initiating the Return to the Educational Setting

Many times, when students return to school, they are assigned to the same class schedule as they had prior to their injury. This placement often results in academic

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failure and emotional distress to students and their families. Those who work primarily in rehabilitation settings and know the special needs of this unique population, often become concerned and frustrated when CHI youngsters are placed in educational settings they are unprepared to handle. Those who work primarily in schools also may experience concern and frustration because they do not have adequate understanding of the child's problems and needs in order to make effective decisions regarding school placement.

In recent years, because of PL 94-142, educators have become more familiar with a wide variety of handicapping conditions. They are becoming accustomed to planning for students with handicaps who are placed in their special or regular education classroom. However, because the return of the CHI is a relatively recent phenomenon, educators are often unfamiliar with the problems associated with head injury and strategies for teaching them (Rosen & Gerring, 1986). Administrators and educators frequently erroneously assume that the CHI are much like the learning-disabled or multiply handicapped student and plan accordingly.

Although many of the cognitive and behavioral characteristics are similar to these handicaps, this population demonstrates many unique needs. Rosen and Gerring (1986) and Cohen, Joyce, Rhoades, and Walks (1985) provide descriptions of those characteristics which indicate differences between the CHI and other types of handicaps. Following are several examples:

—previous successful experiences in academic and social settings;
—a premorbid self-concept of being normal;
—discrepancies in ability levels;
—inconsistent patterns of performance;
—variability and fluctuation in the recovery process; and
—more extreme problems with generalizing, integrating or structuring information.

If properly structured, the educational setting can be the ideal situation in which to continue the rehabilitation process. Schools are structured and organized minicommunities that can provide a framework for socialization and successful relearning and new learning (Savage & Carter, 1984). However, coordination of the student's entire social and learning day is necessary for a successful return to school. For coordination to take place, it is essential for all educators who the student encounters to work together.

The rehabilitation team brings a variety of professions and skills together for remediation of the CHI patient in the rehabilitation setting. The educational team can function similarly by bringing their specialized academic expertise to the educational planning for the CHI student. Each team member can contribute unique insight and information that will benefit the student in successful school re-entry.

Need for SLP Involvement

The public school speech-language pathologist (SLP) should be an active participant on the educational placement team when coordinating the student's transition from the rehabilitation setting to the school setting. It is important for the

SLP to become involved in the transition for two reasons. First, SLPs possess a unique understanding of language and learning problems; and second, because they are aware of how the educational system functions. Specific skills SLPs possess which can be of benefit in the re-entry process are:

1. in-depth understanding of anatomy and physiology as it relates to language processing;
2. ability to observe and diagnose subtle communication deficits and hidden inadequacies of the communication system;
3. proficiency in objective evaluation procedures;
4. ability to establish remediation goals based upon a hierarchial approach, working from a simple to complex continuum;
5. understanding of the process for teaching judgment, organization, planning and problem solving;
6. understanding of the communication requirements necessary for task performance at various academic levels;
7. awareness of the impact communication deficits can have on school success;
8. awareness of the pragmatic skills necessary for social interaction and communication; and,
9. understanding of physical environmental factors which can interfere with learning and communication.

Establishing Effective Networks

When effective networks are established between the rehabilitation setting and the educational setting, the potential for school success for the CHI student can be increased. Following is a networking plan which was developed as a guide for professionals concerned with the need to implement a smooth transition from the rehabilitation setting to the educational setting. Effective networking can originate by professionals at either the rehabilitation facility or the educational facility.

To implement an effective network, groundwork for communication and interaction must be established. There is a need to keep all persons involved with the CHI student informed. First, inform the CHI's family of your interest in working with other professionals to ensure maximum benefit to the student. Second, obtain written permission to establish contact with other professionals. Third, call the involved agencies (rehabilitation center or school) and indicate the need to work together to increase the student's potential for success. Fourth, request to meet with all who will potentially be involved with the student when he re-enters school or all who have been involved with rehabilitation to the point of re-entry.

When the initial contact is originated by the SLP at a rehabilitation facility, the steps below are recommended.

1. **Educate** yourself about the educational system, laws, personnel, and resources available. Know the available academic programs.
2. **Understand** how the student's deficit areas will affect his ability to perform successfully on specific curricular tasks.

3. **Discuss** the student's academic and social history with the family.
4. **Obtain** permission from the family to contact the school to begin planning for the student's reentry.
5. **Make** a personal visit or phone call to the speech-language pathologist and/or administrators of the special education program to alert them of the client's return.
6. **Explain** why you have referred the student to school at this time.
7. **Offer** to participate in the educational placement and planning process.
8. **Encourage** ongoing communication about the student's skills, needs, and problems related to re-entry.

If the family requests that the CHI student be re-enrolled in the educational setting without prior contact from the rehabilitation facility, the procedures below are recommended for the school SLP or other professionals on the educational team who become involved (Blosser & DePompei, 1986).

1. **Educate** yourself about the nature of CHI, including typical behaviors associated with CHI and information about the effect of head injury on the student's cognitive, physical, emotional, and language skills. (Figure 1 form may be helpful.)
2. **Know** about the special services available to students with handicaps in the school district.
3. **Understand** the school policies and procedures which will relate to the student's re-entry.
4. **Discuss** the student's rehabilitation history and progress with the family.
5. **Obtain** permission from the family to contact the rehabilitation facility to begin planning for the student's re-entry.
6. **Make** a personal visit or phone call to the speech-language pathologist at the rehabilitation facility to provide information about the student's return to school.
7. **Schedule** a meeting to learn about the student's problems and needs. Discuss the following:
   —interpretation of test results
   —observation of behaviors and skills
   —indicators of "readiness" or "nonreadiness" for academic and social situations
   —samples of written work
   —special arrangements needed in the classroom environment
8. **Request** a meeting of all who will potentially be involved with the student in school (this may include psychologists, guidance counselors, speech-language pathologists, administrators, physical and occupational therapists, etc.)
9. **Invite** the hospital/clinic personnel to participate in the I.E.P. process.
10. **Share** information about the student's problems and potentials as well as the school's available services to meet the student's needs.

During the formulation and execution of the Individual Education Plan (IEP) for the student, ongoing communication about skills, needs, and problems related to re-entry should be encouraged. It is recommended that the following major questions be discussed during a multidisciplinary planning meeting:

1. Who will act as the major coordinator for the student's total educational program if the district has not designated a specific educational coordinator for special children?
2. What degree of modification will be necessary for each specific curricular area, considering the student's strengths and weaknesses?
3. Who will evaluate the student's performance, assign formal grades, and determine if grades should be "adjusted" or "true?"
4. What emotional support procedures will be used by school personnel in response to the student's feelings and moods?
5. What behavioral control procedures will be used by school personnel?
6. How and when will parent contacts be made?
7. How can the student's class schedule and/or physical environment of the classroom be modified to accommodate special needs?
8. What amount of involvement will each teacher have in the development, implementation, and monitoring of the I.E.P.?
9. What types of activities and teaching techniques will be employed?
10. What additional services will be required for the student beyond those readily provided by the school system?

Implementing the Return

Once the I.E.P. is established, it is important to maintain a network among school staff to promote ongoing communication about the student's performance and changing needs. Consistent communication can be developed through regularly scheduled meetings, written reports, classroom observations, exchanging samples of classwork, and frequent informal contacts.

The following is a list of several techniques and classroom adaptations which can be implemented to help the student. All educators working with the student should be encouraged to use as many of these techniques as possible during all classroom interactions with the student.

1. Plan many small group activities to facilitate learning of appropriate interaction skills.
2. Clarify verbal and written instructions in the following ways:
   a. Accompany verbal instructions with written instructions.
   b. Repeat instructions and redefine words and terms.
   c. Verbally explain written instructions or assign a "classroom buddy" to do so.
   d. Alert the student to the important topic or concept being taught (I'm going to tell a story and then we'll discuss *where* it takes place").
3. Use pauses when giving classroom instructions to allow time for processing information.

4. Because response time is often delayed, provide the student with ample time to respond verbally and complete in-class and home assignments.
5. Avoid figurative, idiomatic, ambiguous, and sarcastic language when presenting lessons. (Example: "You're a ham." "Susie, we don't put things in our mouths.")
6. Select a "classroom buddy" to keep the student aware of instructions, transitions, and assignments.
7. Permit the student to use assistive devices such as calculators, tape recorders, and computers.
8. Help the student to formulate and use a system for maintaining organization. Require the student to carry a written log of activities, schedule of classes, list of assignments and due dates, and room locations. Frequently monitor the student's use of the organization system.
9. Schedule a specific time for rest and/or emotional release. Encourage the student to share any problems being experienced.
10. Plan extracurricular activities based on the student's physical and emotional capabilities as well as his interests.
11. Privately ask the student to repeat information and/or answer a few key questions to be sure that important information presented has been understood. Care should be taken, however, not to cause stress in students who have difficulty responding to direct questions.
12. Structure the physical environment of the classroom to decrease distractions and permit ease of movement by carefully planning seating and furniture arrangements.
13. Modify and individualize the student's assignments and tests to accommodate special needs. Examples of modifications include reducing the number of questions to be answered or amount of material to be read, permitting the student to tape record the teacher's lectures or responses to test questions, and changing the format of a task.
14. Develop resources to accompany textbook assignments. For example, use pictures and written cues to illustrate important information and concepts. Assign review questions at the end of chapters. Write new vocabulary. Present a summary of a chapter on tape or paper. Go over errors made on tests to let the student know where and why errors occurred.
15. Establish a system of verbal or nonverbal signals to cue the student to attend, respond, or alter behavior. (Examples include calling the student's name, touching, written signs, or hand signals).

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APPENDIX H
Normative Data on Speech Production

ARTICULATION NORMS COMPARISONS
J. Joseph Freilinger, Ph.D.
90% Level

Phoneme	Iowa (Smit)	Templin (2 pos.)	Templin (3 pos.)	Poole	Hejna	Hall-Healy[g] (3 position) Male|Female	Hall-Healy (2 position) Male|Female	Sanders[h]	Range[i]
m	<3:0	<3:0	<3:0	3:6	3:0	<3:0|<3:0	<3:0|<3:0	1:6-3:0[h]	1:6-3:6
n	3:6	<3:0	<3:0	4:6	3:0	<3:0|<3:0	<3:0|<3:0	1:6-3:0[h]	1:6-4:6
h	<3:0	3:6	3:6	3:6	3:0	<3:0|<3:0	<3:0|<3:0	1:6-3:0[h]	1:6-3:6
w	<3:0	3:6	3:6	3:6	3:0	<3:0|<3:0	<3:0|<3:0	1:6-3:0[h]	1:6-3:6
p	<3:0	<3:0	4:0	3:6	3:0	<3:0|<3:0	<3:0|<3:0	1:6-3:0[h]	1:6-4:0
b	3:6	<3:0	6:0	3:6	4:0[f]	<3:0|<3:0	<3:0|<3:0	1:6-4:0[h]	1:6-6:0
t	4:6	7:0	8:0	4:6	6:0	<3:0|4:0	<3:0|<3:0	2:0-6:0	2:0-8:0
d	3:6	4:0	6:0	4:6	5:0[f]	<3:0|<3:0	<3:0|<3:0	2:0-4:0	2:0-6:0
g	4:0	3:6	6:0	4:6	4:0[f]	<3:0|<3:0	<3:0|<3:0	2:0-4:0	2:0-6:0
f	5:6	4:0	4:0	5:6	4:0	7:0|6:0	7:0|6:0	2:6-4:0	2:6-7:0
j	5:0	4:0	4:0	4:6	5:0[f]	5:0|5:0	5:0|5:0	2:6-4:0	2:6-5:0
k	3:6	3:6	6:0	4:6	4:0[f]	<3:0|<3:0	<3:0|<3:0	2:0-4:0	2:0-6:0
ʃ	7:0	7:0	7:0	6:6	6:0[f]	7:0|6:0	7:0|5:0	3:6-7:0	3:6-7:0
v	5:6	8:0	8:0	6:6	7:0[f]	7:0|7:0	7:0|7:0	4:0-8:0	4:0-8:0
tʃ	5:6	7:0	7:0	d	6:0[f]	7:0|6:0	7:0|6:0	3:0-7:0	3:0-7:0
dʒ	7:0	6:0	>8:0	d	7:0[f]	6:0|5:0	6:0|5:0	4:0-7:0	4:0->8:0
s	9:0	8:0	8:0	7:6[b]	7:0[f]	7:0|7:0	7:0|7:0	3:0-8:0	3:0-9:0
ʒ	5:6	8:0	8:0	6:6	8:0	7:0|7:0	7:0|7:0	5:0-8:0	5:0-8:0
ŋ	9:0	6:0	6:0	4:6	5:0[f]	4:0|3:0	4:0|<3:0	2:0-6:0	2:0-9:0
l	8:0	6:0	6:0	6:6	6:0	7:0|4:0	7:0|4:0	3:0-6:0	3:0-8:0
r	8:0	6:0	7:0	7:6	6:0	7:0|6:0	7:0|6:0	3:0-6:0	3:0-8:0
θ	8:0	7:0	7:0	7:6	7:0	7:0|7:0	7:0|7:0	4:6-7:0	4:6-8:0
z	9:0	7:0	>8:0	7:6[b]	7:0[f]	7:0|7:0	7:0|7:0	3:6-8:0	3:6-9:0
%Correct	90	90	90	100	90	90	90	51-90	
Date	1986	1957	1957	1934	1955	1962/1963	1962/1963	1972	
N	557	480	480	141(65)	f	285/340	285/340		
Ages	2:10-9:3	2:11-8:1	2:11-8:1	2:6-8:6	-	3:0-8:11	3:0-8:11	-	-
Interval	1/2 year	1/2 year	1/2 year	1 year	-	1 year	1 year	1/2-1 year	-
Position	2	2	3	3	3	3	2	3	-

(H2)

FOOTNOTES

[a] Phoneme tested only in word-initial position.

[b] Reversal occurs in older age groups (Prather: /s/, /l/, /r/ reported at earliest age; /dʒ/ reported at latest age.)

[c] Maximum of 21 subjects per age group; cells vary from 3 to 21 subjects; 2 position test.

[d] Not tested or not reported

[e] Templin extrapolated data of Poole (1934) to a 75% criterion.

[f] Hejna extropolated Templin (1957) data to an approximate 90% criteria except for finals /b/, /g/ and /z/ which were at 75% criteria. (If Hejna has strictly used a 90% criteria age, the following sounds would change: /d/=6; /g/=6; /j/-4; /k/=6; /ʃ/=7; /b/=6; /tʃ/=7; /s/=8; /ŋ/=6; and /z/=>8.)

[g] Hall studied 3-6 year olds; Healey studied 6-9 year olds. Data was interwoven by Dr. Healey at Special School District of St. Louis County, Missouri.

[h] Sanders extrapolated Wellman (1931) and Templin (1957) data. Sounds arbitrarily listed as "before age two" if children at age two had a combined average exceeding 70%.

[i] Using Sanders logic for a range, ages from each study reported in these tables, were used to establish this range. The earliest age given is from Sanders work.

TABLE 4–1. Children's Production of Measured Numbers of Single or Sequenced Syllables.

	AVERAGE TIME				
AGE	*pʌ**	*tʌ**	*kʌ**	*pʌtʌ***	*pʌtʌkʌ****
6	4.8	4.9	5.5	7.3	10.3
7	4.8	4.9	5.3	7.6	10.0
8	4.2	4.4	4.8	6.2	8.3
9	4.0	4.1	4.6	5.9	7.7
10	3.7	3.8	4.3	5.5	7.1
11	3.6	3.6	4.0	4.8	6.5
12	3.4	3.5	3.9	4.7	6.4
13	3.3	3.3	3.7	4.2	6.4

RE: PRESCHOOL PHONOLOGICAL PROCESSES STUDY (HANDOUT)
A.S.H.A. 85 WASHINGTON, D.C.

A DESCRIPTION OF PHONOLOGICAL PROCESSES IN PRESCHOOL COMMUNICATIVELY DISORDERED CHILDREN

Viola P. Miller
Elizabeth G. Blodgett
Susan Brantley

Murray State University
Murray, Kentucky

Subjects: Subjects for this study were 83 phonologically disordered 3- and 4-year old children. The children were rural-dwelling and were identified as phonologically disordered through a county-wide (Henry County, Tennessee) preschool screening.

Procedures: Fifty utterance language samples were obtained in a play setting. Samples were then phonologically analyzed by the authors.

Results: Results are summarized in Table 1.

Table 1

NUMBER AND PERCENTAGE OF 3 AND 4 YEAR OLD PHONOLOGICALLY DISORDERED CHILDREN EVIDENCING SPECIFIC PHONOLOGICAL PROCESSES

Processes	3 Year Olds (N = 41)		4 Year Olds (N = 42)		Total	
	Number	Percent	Number	Percent	Number	Percent
Deletion of final consonant	17	41.4	9	21.4	26	31.3
Stopping	11	26.8	18	42.8	29	34.9
Fronting	13	31.7	22	52.4	35	42.2
Liquid simplification	14	34.1	16	38.1	30	36.1
Cluster reduction	18	43.9	17	40.5	35	42.2
Stridence deviation	7	17.1	12	28.6	19	22.9
Glottal replacement	2	4.9	2	4.8	4	4.8
Weak syllable deletion	5	12.2	4	9.5	9	10.8
Deletion of initial consonant	2	4.9	4	9.5	6	13.9
Frication	3	7.3	6	14.3	9	10.8
Sound preference	1	2.4				
Nasalization	1	2.4	1	2.4	1	1.2
Voicing	3	7.3	4	9.5	2	2.4
Backing	3	7.3			3	3.6
Reduplication	2	4.9	1	2.4	3	3.6
Gliding of fricatives			1	2.4	1	1.2
Affrication	1	2.4	6	14.3	6	8.4
Deaffrication			3	7.1	3	3.6
Reduction to one syllable	1	2.4	2	4.8	3	3.6

APPENDIX I
Information on Assessment of Needs for Augmentative, Alternative, and Assistive Communication Devices

WHY AUGMENTATIVE SYSTEMS SHOULD BE CONSIDERED *

A. To enhance daily communication when spoken language abilities are inadequate.

B. To serve as a bridge leading to the development of natural speech or spoken language comprehension.

C. To ascertain whether language skills can be acquired using augmentative components when they have not been acquired in spoken language use.

The training goals and the selection of augmentative components need to reflect the user's motivations and interests in communication, as well as to expand their interests and communication opportunities.

SEVERE EXPRESSIVE DISORDERS

Augmentative assessment is provided by factors related to change. It involves changes in the capabilities of the non-speaking / or non-writing individual or changes in the individual's communication needs.

1. The individual need for communication is determined.

2. Components of the individual's existing communication system are evaluated.

3. All potential augmentative components are selected to meet these needs.

   a. Devices
   b. Techniques
   c. Symbols
   d. Strategies

   To provide an optimal communication system some of the restraints are:

   a. Cognitive
   b. Social-Communicative
   c. Sensory
   d. Motor Skills

FORMAT

A. Identification of the environment where the communication occurs is important.

B. Development of corresponding vocabulary list within the child's developmental experience and interest level is also very important.

*Authored by UAAACT members in Davis District (Team A - Power Pack)
(I2)

A REVIEW OF SEVERAL LISTS OF ASSESSMENT FACTORS IN SELECTING AN AUGMENTATIVE/ALTERNATIVE COMMUNICATION SYSTEM

Kathleen Kangas

The following is a summary of some of the assessment factors to be considered when selecting an alternate communication strategy. Each of these lists of factors has been suggested by its author(s) to assist service providers in choosing the initial system or systems to be introduced. It is immediately obvious upon reviewing these lists that there is considerable overlap, although the phrasing may differ dramatically. More importantly, each presents a somewhat different framework for organizing the information and a different emphasis on the various factors.

The factors cited could be grouped into three areas: Student Skills, Environmental Needs, and Teacher Concerns. Student Skills refers to the factors which involve the individual student's abilities and deficits. These would include cognitive, motor, and sensory skills. Environmental Needs refers to the needs of the individual within his/her current and future environments. This includes the functional messages s/he needs to convey as well as the persons with whom s/he will communicate. Of course, these factors can only be considered with reference to the student's skills. The third group, Teacher Concerns, relates to those factors which primarily concern the educators and caregivers, as opposed to directly concerning the student. This includes cost, durability, and the ease with which the system lends itself to record keeping. While this group of factors is here referred to as "Teacher Concerns," it should be understood that parents and others will also be concerned with these items. Because this review concludes with a discussion of these groups of factors, each list is introduced, and the factors on that list will be identified as belonging basically in one of these three groups: (S) for Student Skills, (E) for Environmental Needs, or (T) for Teacher Concerns.

Shane and Yoder (1981) provide a list of fourteen questions which they say represent " ... features (that) should be incorporated into the communication plan for the person who uses an augmentative system" (p. 214). They are the following:

1. Has the user's current level of performance with regard to linguistic, cognitive, and motor capabilities been documented? (S)

2. Is the system functional? (E)

3. Is it preparatory in nature? (E)

4. Is it individualized? (S)

5. Does it provide for interactions with nonhandicapped peers and other persons? (E)

6. Does it allow for at least partial participation in a wide variety of instructional arrangement, for example, one-to-one, group, and so forth? (E)

7. Are individual adaptations accomplished which maximize participation? (S)

8. Can it accommodate a variety of instructional arrangements, for example. one-to-one, group and so forth? (E)

9. Are there strategies developed for continuous assessment and documentation of outcomes? (T)

10. Are the teaching techniques used providing salient instruction? (E) (T) (S)

11. Is it free of "dead time?" (E)

12. Does it allow for the coordination of instruction and related services? (T)

13. Can daily lesson plans be written for its implementation? (T)

14. Is it consistent with the user's effective and sensory characteristics? (S)

As can be seen from the above list, the needs of the individual within his/her environment are the main focus. Seven of the fourteen questions are within this area. The other items are almost evenly split between student skills and teacher concerns. In this case, the teacher concerns relate to standards for effective teaching, that is, strategies for assessment and documentation, ability to write daily lesson plans, and the coordination of instruction with use of the system.

It appears that the detailing of several aspects of the environmental needs is one of the strong advantages of this list. In particular, the two items which refer to a variety of instructional arrangement (numbers 6 and 8) seem to be a unique contribution.

Silverman (1980) discusses an evaluation procedure " ... for selecting the optimal nonspeech communication system (or combination of such systems) for a person ..." (p.10). He lists six questions which he says must be answered. They are the following:

1. What is the cause of the person's communicative disorder? (S)

2. What does the person communicate at present? (S)

3. What are his/her communication needs? (S)

4. What is his/her inner, receptive and expressive language status? (S)

5. Of the existing nonspeech communication systems, which would it be possible for him/her to use? (S)
[Note: Later discussion by Silverman makes clear that this item refers to "possible" in reference to motor and sensory abilities.]

6. Of the systems s/he could use, which system (or combination of systems) would be optimal for meeting his/her communication needs? (E)

This list is clearly concerned more with student skills than with any other area. Four of the six questions relate to student skills. It is interesting that the two questions which relate to environmental needs are followed in the text by very brief discussions. None of Silverman's questions contain the category of teacher concerns, although some of these were briefly mentioned in the text under number six, "Which system would be optimal."

This set of questions seems to represent the more traditional approach to selecting an alternate communication system. The main focus is clearly the client's abilities and disabilities with a rather cursory treatment of the environmental needs. A more recent trend is to carefully assess and reassess the individual's needs within a wide variety of environments. Certainly a detailed assessment of the client's skills is necessary and a communication program should not be instituted without it; however, equal emphasis should be placed on the need for the client to interact with his/her environment.

Wheeler et al. (1983) discussed their assessment process in reference to four questions. These are the following:

1. What modalities is the student presently utilizing? (S)

2. What functional messages are critical for independence in a wide variety of heterogeneous environments? (E)

3. What communication is intrinsically motivating for the student? (E)

4. What format(s) provide(s) the most efficient and effective means of communication for the student? (E)

As with Shane and Yoder's approach, the emphasis here is again on the needs of the individual within his/her environment. In this case, three of the four assessment questions relate to this area. Here, the assessment of the student's abilities and deficits is given rather cursory treatment and condensed into the single question of number one.

Musselwhite and St. Louis (1982) present a table of "Consideration in selecting non-vocal input or output systems" (p. 6). The table presents a list of client-related features divided into three sections: client's abilities/limitations, client's needs, and implementation. These are approximately aligned with the three categories referred to throughout this review. The listing of features is as follows:

Client's abilities/limitations

Cognitive level (S)
Gross motor skills (S)
Fine motor skills (S)
Sensory or processing problems (S)
- vision
- hearing
- touch
- memory

Client's needs

Present communication "system" (S)
Current communication needs (E)
Anticipated future communication needs (E)

Implementation

Audience (E)
Willingness to implement (T)
Funding (T)
Availability of trainers (T)

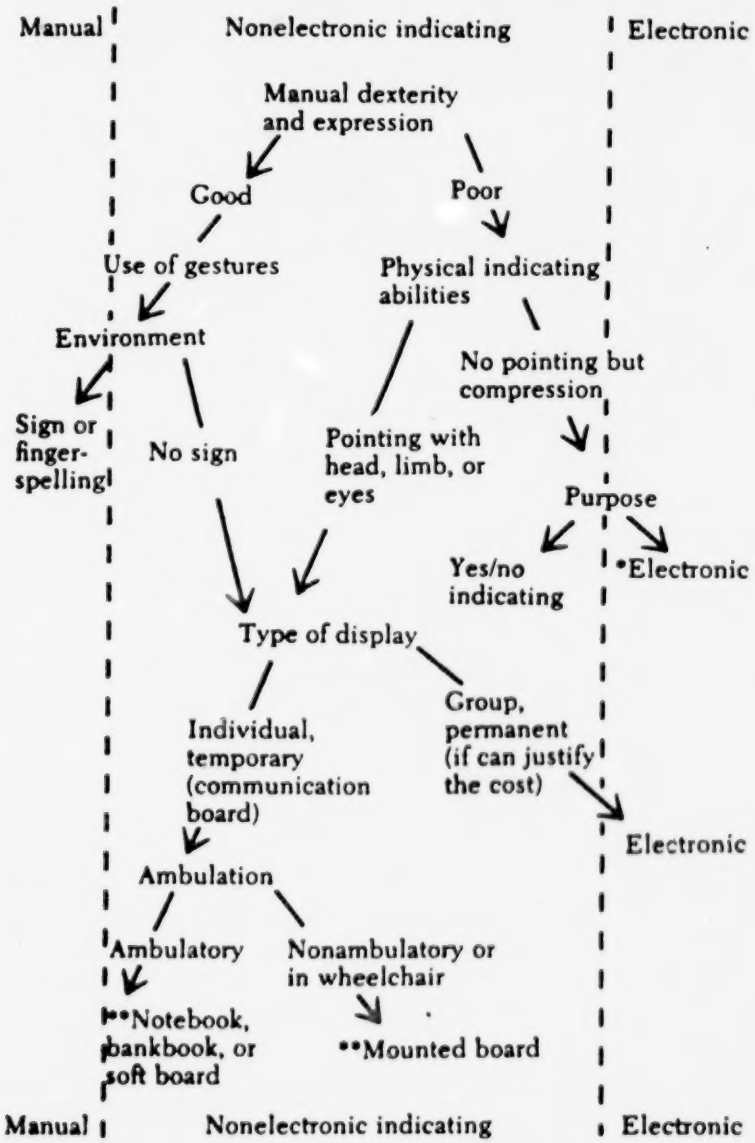
Here again, we see a balance with all three areas represented. I particularly liked the decision to divide the factors into larger groups to make the conceptual framework clearer. This was one of the most detailed lists of factors which I have found.

Owens and House (1984; see matrices on following pages) offer four decision matrices which they say " ... can aid the speech-language pathologist in selection of the most appropriate augmentative means of expressive communication" (p. 18). Level I is entitled "To be or not to be augmentative" and provides a flow chart of decision items. The first three entries are prerequisites: a) cognitive, b) social/communicative, and c) receptive language, in that order. Although these authors use the work "correlates," they intend the meaning of prerequisites since they indicate that if these attainments are not exhibited by the nonspeaking individual, the clinician should delay further exploration of a nonspeech mode and attempt to train these behaviors.

(1) Augmentative Communication Decision Matrix
Level I: To be or not to be (augmentative)

Cognitive correlates —No→ Wait. Train cognitive behaviors.
↓ Yes
Social/Communicative correlates —No→ Wait. Train social behaviors.
↓ Yes
Receptive language correlates —No→ Wait. Train receptive behaviors.
↓ Yes
Spontaneous 1–2 words —Yes→ Continue speech training. If a history of therapy with little improvement or continued unintelligibility, go to section on therapy history or at-risk (below)
↓ No
Imitation of single words —Yes↗
↓ No
Imitation of sounds or oral movements —Yes↗
↓ No
Oral motor difficulties —No↗
↓ Yes
Therapy history or at-risk —No→ Continue speech training for at least 1 year before implementing augmentative training. (Receptive augmentative training may begin.)
↓ Yes
Environment —No→ Educate those in the environment.
↓ Yes
So far, so good! Go on to augmentative mode decision (Level II).

Augmentative Communication Decision Matrix
Level II: Which augmentative mode is appropriate? (2)



•Type dependent upon individual abilities and needs.
••Placement of material and size of symbols depends on the physical abilities of the client.

Augmentative Communication Decision Matrix
Level III: Which augmentative code is appropriate? (3)

Hierarchy of codes:	Visual	Manual
Symbolic	Alphabetical/Numerical Printed words Blissymbolics Pictographs	Fingerspelling Sign language
Representational	Line drawings Pictures Pictographs Models or miniatures Non-SLIP (Carrier, 1974)	A few iconic signs AmerInd Gestures

Augmentative Communication Decision Matrix
Visual code decision process (4)

Cognitive functioning (at least 18 months)	—No→	Wait. Attempt cognitive training.
↓ Yes		
Cognitive functioning (24–36 months)	—No→	Attempt representational system.
↓ Yes		
Visual discrimination	—Poor→	Representational system or visual discrimination training. If very poor attempt Braille or manual system in palm.
↓ Good		
Symbolic system		

APPENDIX J
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